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EDWARD HYATT, State Engineer

BULLETIN NO. 47

MOJAVE RIVER INVESTIGATION

1934

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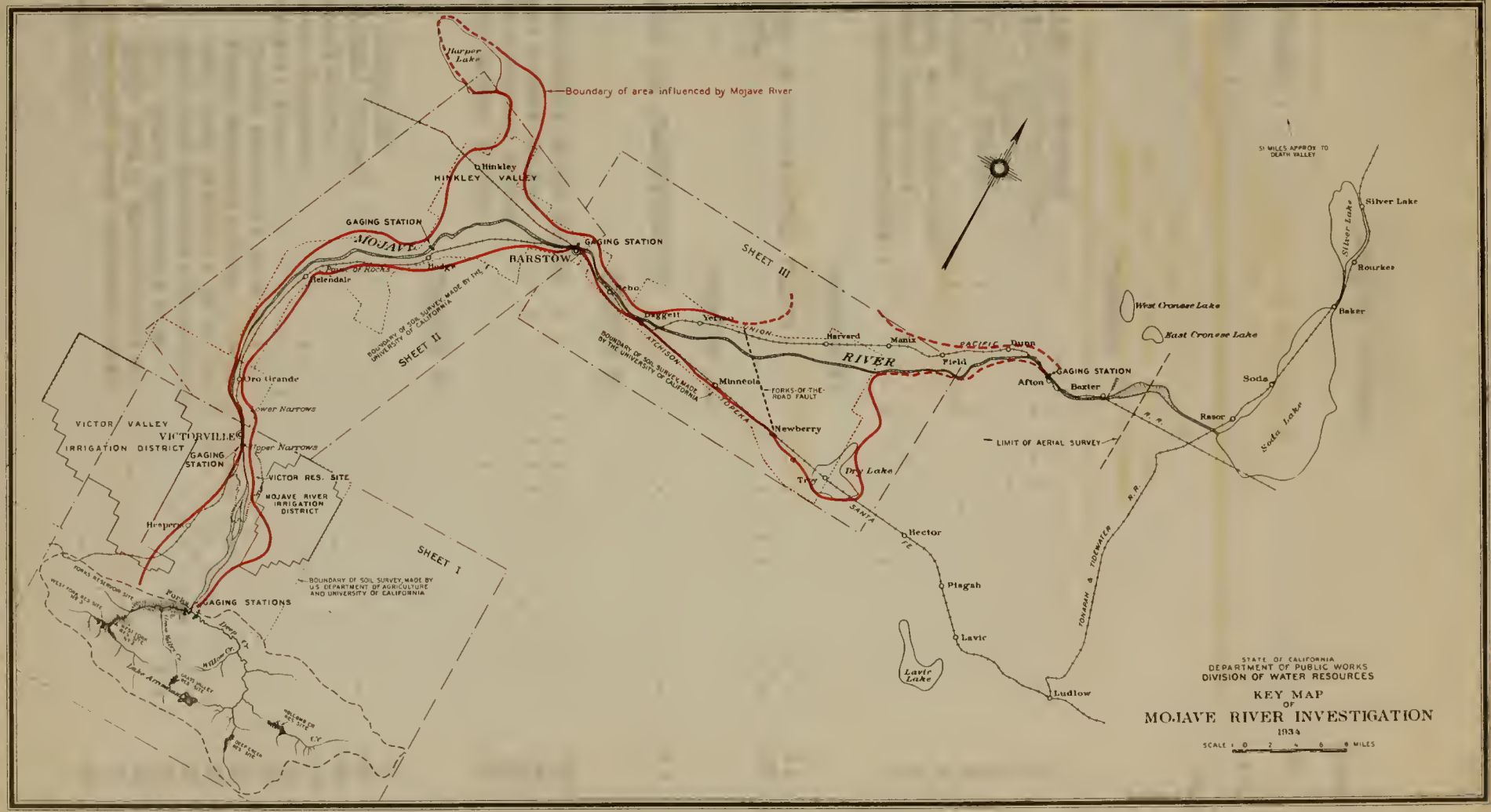
PLATE 1


Harper Lake
Boundary of area influenced by Mojave River
Hinkley
HINKLEY VALLEY
GAGING STATION
MOJAVE
BARSTOW
GAGING STATION
Helendale
Rock
Echo
Daggett
Yermo
UNION
Harvard
Manix
PACIFIC
Dunn
Field
RIVER
GAGING STATION
Afton
Baxter
Soda
Resor
Silver Lake
Rourkes
Baker
West Cronese Lake
East Cronese Lake
Soda Lake
SHEET III
SHEET II
SHEET I
ATCHISON
TOPEKA
SANTA FE
Minneola
FORKS-OF-THE-ROAD FAULT
Newberry
Dry Lake
Troy
Hector
Pisgah
Lavic
Lavic Lake
Ludlow
TONOPAH & TIDEWATER R.R.
LIMIT OF AERIAL SURVEY
BOUNDARY OF SOIL SURVEY MADE BY U.S. DEPARTMENT OF AGRICULTURE AND UNIVERSITY OF CALIFORNIA
VICTOR VALLEY
IRRIGATION DISTRICT
VICTORVILLE
GAGING STATION
Oro Grande
Lower Narrows
Upper Narrows
VICTOR RES. SITE
MOJAVE RIVER IRRIGATION DISTRICT
Hesperia
GAGING STATIONS
Forks
Deep Cr.
Lake Arrowhead
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES
KEY MAP
OF
MOJAVE RIVER INVESTIGATION
1934
SCALE

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This help has been greatly appreciated.

ORGANIZATION

Earl Lee Kelly ..... Director of Public Works

Edward Hyatt ..... State Engineer

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This investigation was under the general charge of
and this report is
by
Harold Conkling
Deputy State Engineer

- - - - - - - - - - - - - - - - - oOo - - - - - - - - - - - - - - - - - -

The field work done by the Division of Water Resources
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of
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- - - - - - - - - - - - - - - - - oOo - - - - - - - - - - - - - - - - - -

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FOREWORD

This report deals primarily with the hydrology of Mojave Basin and is obviously of a preliminary nature. Much more information is necessary to lay out a plan for extensive development if the situation is judged to be favorable for such development. A solution of the possible legal complications is needed.

This investigation is a part of the state wide investigation of and plans for utilization of the water resources of the state. This has been completed in some areas and still in progress in others, notably Southern California.

CHAPTER I

INTRODUCTION AND SUMMARY

The investigation of Mojave River Basin was started with funds provided by Chapter 832, Statutes of 1929. As little information concerning the hydrology of the valley was available and as knowledge of this is a prerequisite for any planning these funds were devoted to securing this information and similar work was continued during the succeeding bienniums with such funds as were available. These funds have not been sufficient to develop plans for a project and much more work is necessary for accurate knowledge of the hydrology. The work done by the U. S. Geological Survey and by the U. S. Division of Irrigation, Bureau of Agricultural Engineering was financed by cooperative financial agreement between the State and the Government.

Previous Publications

(1) Water Supply Paper No. 140, United States Geological Survey, 1905, "Field Measurements of the Rate of Movement of Underground Waters", by Charles S. Slichter.

(2) Water Supply Paper No. 578, United States Geological Survey, 1929, "The Mojave Desert Region, California", by David G. Thompson.

(3) Bulletin No. 5, California State Department of Engineering, 1918, "Report on the Utilization of Mojave River for Irrigation in Victor Valley, California", by Mojave River Commission.

(4) U. S. Department of Agriculture, 1924, "Soil Survey of Victorville Area", by A. E. Kocher and Stanley W. Cosby.

(5) Bulletin No. 44, California State Division of Water Resources, 1933, "Water Losses under Natural Conditions", by Harry F. Blaney.

(6) Bulletin No. 541, United States Geological Survey, 1914, "Reconnaissance of the Barstow-Kramer Region", by R. W. Pack.

(7) Bulletin No. 613, United States Geological Survey, 1916, "Guidebook of the Western United States, Part C, The Santa Fe Route", by N. H. Darton.

(8) California Univ. Dept. Geology Bulletin, Vol. 7, No. 24, 1914, "Pleistocene Beds at Manix, in the Eastern Mojave Desert Region", by J. P. Buwalda.

(9) Water Supply Papers Nos. 81, 100, 134, 177, 213, 705, 720 and 735, United States Geological Survey.

(10) Int. Geol. Congress Guidebook 15, 1932, "Excursion to the San Andreas Fault, and Cajon Pass", by L. F. Noble.

Scope of Report

The report is limited to a brief discussion of the geology and physical characteristics of the region and to a discussion of the hydrology in so far as the data available justifies. No attempt is made to lay out a specific project and methods of conservation are discussed only in a general way. Dam sites were not explored.

All data gathered are published herein or in Water Supply papers of the U. S. Geological Survey. Data from Lake Arrowhead Corporation are published in a separate mimeographed publication of the Division of Water Resources.

The Problem Stated

Mojave River Valley does not have a problem of present overdraft to correct which makes conservation necessary or desirable. Rather the problem presented is how to bring about greater utilization of the water supply which is made difficult by economic and legal considerations. Flood control works may be desirable if large development occurs.

Work Done

A survey was made by airplane in October, 1929, and from the photographs the base map contained in pocket was drawn. Measurements of depth to water at wells were begun in fall, 1929, and continued by Division of Water Resources personnel until the funds provided by Chapter 832, Statutes of 1929, were exhausted in the summer of 1931. After that date well measurements were taken by the U. S. Geological Survey, which organization has taken all stream measurements and calculated all discharges at stations maintained by it.

The U. S. Division of Irrigation, Bureau of Agricultural Engineering, made estimates of plant transpiration and evaporation at a station southeast of Victorville along the river.

All former well measurements by W. P. Rowe were made available and all those taken for the Arrowhead Corporation and its predecessors. This company also made available all stream measurements, precipitation data and evaporation data both in valley and mountains. From these data the Division of Water Resources calculated daily discharges at all stations. The monthly and seasonal discharges are incorporated in this report. F. C. Finkle also made stream measurements and well data available.

Summary and Conclusions

The principal supply of Mojave River comes from 217 square miles of mountain headwaters which area covers practically the entire northern slope of San Bernardino Mountains, of which 212 square miles are above the lowest stream gaging stations on its forks. It also receives the underflow from the mountains on the west as far as Sheep Creek and the negligible contributions from the drainage area to the east of the headwaters proper. The stream flows north and east 120 miles and is lost in the dry lakes of the desert.

The climate is typically arid. Precipitation averages three to five inches in the valley, the elevation of which is 3000 feet at the mountain toe and falls to about 1400 feet at Afton, 90 miles northeast measured along the river, and the lower limit of the area covered by the investigation. Average annual temperature at Barstow near the middle of the valley and at elevation 2100 is 63 degrees.

The largest towns are Barstow, with a population of 2455, and Victorville, with a population of 2165. Other small communities are Yermo, Daggett and Hesperia.

The valley is well supplied with transportation, being traversed by main lines of the Santa Fe and the Union Pacific railroads and also by two main State and Federal highways. The highways use the same road bed through the narrow central part of the valley and the railroads do also. Several plans of considerable magnitude have been proposed for additional irrigation development and several hundred thousand dollars are said to have been spent in forwarding them but the results are negligible. Two irrigation districts have been formed but no development has been done under either.

Much of the area of the valley has been taken up by homesteads and desert entries. There was, at the time of the survey made by the Division of Water Resources in 1929 of the area influenced either by surface or underflow of the river, a total area of 6019* acres irrigated scattered through the valley but mainly in the upper end. The area irrigated is supplied at points of rising water along the river or by pumping. Aside from these points the stream is dry for about six to eight months of the year after it leaves the mountains.

Soil surveys covering 409,145 acres by the University of California and U. S. Department of Agriculture have been made. The area covered is shown on Key Map and the distribution of the different classifications

---

* Census figures of 1929 show a considerably smaller amount of irrigated land. Likewise the report by the University of California on its soil survey shows a considerably smaller area in 1932. The reasons for this are unknown but one may be that areas in orchard shown by the photographs and considered irrigated were not irrigated and had been abandoned. The exact acreage irrigated is not of great importance to this report. If less is irrigated the beneficial consumptive use given in various tables in the report would be less but the non-beneficial use would be more.

A reconnaissance field investigation of a part of the area indicates abandonment of some of the area supposedly cropped in 1929 and for this report the beneficial consumptive use of crops is taken as 15,400 acre feet instead of 16,800 acre feet which would result if the estimated 2.8 acre feet per acre were applied to 6019 acres.

for that part covered by the maps of the Division of Water Resources in this report is shown on Plates 4-A to 4-C in pocket; 45,883 acres of this total are not shown on the map. The University has classified the lands according to their agricultural value, as shown in Table 1. The classification is based on soil quality and does not consider fertility except as indirectly influenced by soil quality nor does it consider climate or transportation.

Table 1

Rating of Soils as to Value for Agriculture in Area for which Soil Survey has been made in Mojave Valley

Grade Number	Agricultural Rating	Acres
1	Excellent	1,024
2	Good	65,035
3	Fair	184,903
4	Poor	56,184
5	Very poor	67,227
6	No agricultural value	34,772
		409,145

These different classifications of land are scattered indiscriminately through the area, but the area above Barstow contains the larger percentage of the better soils.

The Mojave River is a distributive stream to a large extent below Hodge and waters lost from it by percolation drift away from the stream underground. The gross area influenced by Mojave River, that is, the area the water supply of which, either surface or underground, is wholly or partly dependent on the river and the underflow escaping from the river is estimated to be 338 square miles.

The exact boundary is open to question. There are four parcels within the total area included into which the movement of groundwater from Mojave River must be very small. These are (1) the parcel west of

Mojave River above Victorville except close to the river (whatever supply this receives from the Mojave comes from West Fork); (2) the parcel on the west side of Hinkley Valley between the river and Hinkley station; (3) the parcel north of Hinkley Valley bounded on the north by a line along the south side of the numerous extrusions of bedrock found in that vicinity; (4) the entire parcel east of Forks-of-the-Road Fault. The total area of these is about 150 square miles. Into these parcels the movement of water is so small that only a very small percentage of their area could be irrigated from the supply.

The average annual discharge from the mountains through the main river and the increment from ground water flow below Victorville in the 29 year period beginning 1905 are together estimated to approximate 97,000 acre feet. During the period of rainfall records which started in the mountains in 1883-84 there have been periods of ten and twelve years of very subnormal rainfall during which the runoff from the mountains averaged a little more than 50 per cent of the 29 year average.

The estimated water supply of the river for different periods is shown in Table 2.

Table 2

Estimated Average Annual Water Available in Mojave River
Acre Feet

Period	Years	Mountain Discharge	Inflow from Springs*	Total
1883-84 to 1894-95	12	219,000	7,000	226,000
1895-96 to 1904-05	10	42,000	7,000	49,000
1905-06 to 1921-22	17	122,000	7,000	129,000
1922-23 to 1933-34	12	46,000	7,000	53,000
1905-06 to 1933-34	29	90,000	7,000	97,000

*The estimate for 1931-32 is used for all periods as the distance from the area where these waters get underground to the river is considerable and cyclic variations would be more or less obliterated.

Along practically the entire length of the stream, except the first ten miles below the mountains and a reach of five miles the lower end of which ends about five miles above Barstow, the water table is high, supporting principally cottonwoods but also some tules and salt grass. There are over 7800 acres of bottom lands above Afton and below the mountain toe supporting this type of vegetation and several square miles in which the growth of cottonwoods is more scattered. This causes large waste of water. It is estimated that the stream discharge is disposed of as shown in Table 3. This estimate is extremely tentative. However, all not beneficially used is wasted so far as economic benefit is concerned, so that from that standpoint there is little difference whether the waste occurs in floods past Afton or by supporting cottonwoods.

Table 3

Approximate Average Disposal of Water
of Mojave River
29 year period 1905-06 to 1933-34

Inflow				
River	90,000			
Springs	7,000			97,000
Disposal				
Beneficial Consumption				
Irrigation	15,400			
Domestic and Industrial	1,100	16,500		
Non-beneficial consumption in sustaining native vegetation		41,000	57,500	
Surface outflow at Afton, (required to balance equation)			39,500	97,000

The foregoing indicates that in addition to the 41,000 acre feet non-beneficial consumption, there was waste of water past Afton and out of the area of the valley in which development is possible, but as consumptive use is fairly constant from year to year, during the deficient periods shown in Table 2 approximately the same consumption as above would occur and the surface outflow would be negligible. Although expressed as an

average it occurs only in the years of fairly high runoff. Since and including the year 1927-28, during which seven year period some records are available of the flow past Afton, it is estimated that in only 1931-32 was there any flood waste past Afton, and of that, only about 6000 acre feet were from the mountain headwaters.

In the thirteen year period since and including 1916-17, there was only one year, 1921-22, in which it is probable that any large amount of flood water passed Afton and only eight in the 29 year period since and including 1905-06. In 1926-27 there was a flood peak past Afton but the amount of waste must have been small compared to that of the eight years noted.

The estimated beneficial consumptive use is only 16,500 acre feet and all else is wasted whether by native vegetation or by discharge past Afton. It is evident that if the present non-economic draft on the river for native vegetation is to be maintained, which would mean that only the flood wastes past Afton could be salvaged by surface reservoirs, there would be practically no water available for further irrigation in the deficient periods shown in Table 2 and supplies must come from flood waste held over in reservoirs from the periods of excess flow with consequent heavy loss by evaporation.

Surface Reservoirs

Reservoir sites which would have been surveyed are shown in Table 4 and locations are shown on Key Map.

Table 4

Surveyed Reservoir Sites
Mojave River

Name of Reservoir	Elevation Water surface above streambed	Capacity Acre Feet
Victor	140	350,000
Forks	160	113,459
West Fork No. 2) alternates	130	34,000
West Fork No. 3) alternates	135	35,000
Arrowhead*	160	60,179
Deep Creek	150	2,000
Grass Valley	90	7,600
Holcomb Creek	70	1,000

*Partially constructed.

Underground Reservoirs

Where the water table is not at the surface the stream percolates into its bed to appear as rising water lower down regulated by the underground reservoir. Water from the stream also flows northward under Hinkley Valley to the west of Barstow. All along the stream from the mountains to Forks-of-the Road Fault east of Barstow, the stream channel and bottom lands are of sand and gravel and receptive of water. This is true also eastward of the Fault. If the water table were lower than it now is, greater percolation opportunity would exist, thus making available more of the flood flows which now waste past Afton in periods of excess flow, and if lowered sufficiently the native vegetation would die, thus releasing for beneficial use the water which is now used in keeping it alive.

Many thousand acres of unused land overlie the basins, the underground water of which is supplied by percolation from the river. Good wells are readily secured in a great deal of the area and pumping lifts are not great. Development by individual effort, as has been common in many valleys in California, would lower the water table and automatically bring about the results noted in the preceding paragraph.

Estimates of capacity of the underground basins above Hodge are shown in Table 5 for various depths below ground surface.

Table 5

Estimated Capacity of Underground Basins above Barstow
Acre Feet

	Feet below ground surface			
	50	100	150	200
Forks to Victorville	90,000	220,000	410,000	670,000
Victorville to Hodge	160,000	320,000	480,000	640,000
Hodge to Barstow, including Hinkley Valley	290,000	590,000	900,000	1,200,000
	540,000	1,130,000	1,790,000	2,510,000

It is apparent that any extensive development of the water resources of Mojave Basin must contemplate utilization of underground reservoirs, perhaps supplemented by a surface reservoir. The present regimen of the stream would be much disturbed by such development if it is large.

CHAPTER II

DESCRIPTION OF MOJAVE RIVER VALLEY

Mojave River Basin is in the desert region of southeastern California most of which is part of the Great Basin. It is in the western part of San Bernardino County and its mountain drainage area divides the desert from the Coastal Region.

Principal towns are Barstow (population 2455 in 1929), Victorville (population 2165 in 1929) and Yermo (population 400 in 1929). Other small settlements are Hinkley, Newberry and Hesperia.

Industrial development consists of the railroad yards at Barstow which is a division point on the Santa Fe railroad and the cement works near Victorville.

Transportation is furnished by the main line of the Union Pacific from Salt Lake to Los Angeles, and of the Santa Fe from Kansas City to Los Angeles and to San Francisco, the division of traffic being made at Barstow. U. S. Highway No. 66 (also State highway) from Los Angeles to Salt Lake and from Los Angeles to northern Arizona points also passes through the valley from end to end branching at Barstow. The valley is a natural avenue from the east to Coastal Region of southern California and to the Great Central Valley of the State, the first record of its use being about 160 years ago.

Irrigation is supposed to have begun prior to 1870 by means of a few small ditches diverting at points of rising water. The Appleton Land & Water Company, organized in 1886, diverted water from East Fork to lands around Hesperia. At one time about 1000 acres are said to have been irrigated but the total in 1916 was 310 acres and was less in 1929. The Mojave Water & Power Company in 1908 proposed a reservoir to be formed by a dam at Upper Narrows for irrigation below Victorville, but nothing came of it.

CHAPTER IX

DEVELOPMENT OF MODERN WATER TRAVEL

Rancho Verde, just above the Upper Narrows, at one time is said to have irrigated 1500 acres. The area was reduced to 1000 acres in 1918. The Daggett Ditch was started in 1885 and after various vicissitudes is said to now irrigate 150 to 250 acres. Yermo Mutual Water Company was initiated in 1910 to irrigate 8000 acres near Yermo. About $200,000 was spent it is claimed. In 1916 about 200 acres are said to have been irrigated from this system but in 1929 there was none. Victor Valley Irrigation District was formed in 1917 to irrigate lands in the mesa southwest of Victorville. While not formally dissolved it is absolutely quiescent. Mojave River Irrigation District was formed in 1917 to irrigate lands in what is called Apple Valley in the mesa southeast of Victorville but has done nothing.

The areas irrigated other than those just described are by individual enterprises such as the gravity diversions below Victorville or wells particularly in Hinkley Valley and Apple Valley.

In 1918 there were 9870 acres irrigated in the Mojave River Valley*, of which 7685 acres were in the river bottom and low lands and 2185 acres on the mesas. In 1929 there were 6019 acres (Plates 5-A, B and C in pocket), drawing water from the river either by gravity diversion and pumping along the river bottoms or by pumping in Hinkley Valley to which water from the river is conveyed underground. Above Victorville in Apple Valley and around Hesperia are additional irrigated lands not shown on map, which do not draw on river water but are supplied by tributary underground water or gravity diversions above the Forks. The irrigated area around Adelanto is also not shown but 101 acres irrigated by water from springs in the river bottoms are included in the above total. Table 6 shows the total irrigated area dependent on the river or underflow from it as disclosed by the aerial survey of 1929.

*Op cit Bulletin 5.

Table 6

Irrigated Area in Mojave Valley
dependent on Mojave River
Acres – 1929

District	Acres
Mountains to Victorville	1,275
Victorville to Hodge	1,860
Hodge to Barstow, including Hinkley Valley	1,778
Barstow to Daggett	355
Daggett to Camp Cady	751
Total	6,019

Climate

Climate is very arid, annual precipitation averaging three to five inches with low humidity, high summer temperatures and great diurnal range in temperature. Sixty per cent of the precipitation occurs in the four months December to March. Growing period between frosts averages 245 days. High winds prevail in the spring.

Elevations average 3000 feet south of Victorville and below the Forks, 2500 feet between Victorville and Hinkley, 2150 feet between Hinkley and Barstow with a general fall from Barstow easterly of 13 feet to the mile. At Afton where the lowest gaging station for this investigation was established the elevation is about 1400.

Table 1

[illegible]
[illegible]
[illegible]

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

[illegible]

[illegible]

CHAPTER III

SOIL SURVEY AND CLASSIFICATION

A cooperative survey of the Victorville area (that portion of the valley above Victorville) was made in 1921 by the U. S. Department of Agriculture and the University of California*.

In 1932 the University of California College of Agriculture, at the request of the Division of Water Resources and with funds for field work furnished by the Division, made a survey of the part of the valley influenced by Mojave River from Victorville down river to a line 18 miles east of Daggett. The results of this survey** are not yet published but part of the following is condensed therefrom.

The area covered by the two surveys within the boundary of the survey of the Division of Water Resources is shown on Plates 4-A, B and C in pocket. The area covered by the survey of 1932 is entirely within the boundary of the Division of Water Resources survey but the area covered by the survey of 1921 extends outside that boundary. The boundaries of the three surveys are shown on Key Map. The University also classified the area encompassed by both surveys as to its suitability for agriculture by the "Storie Index Method of Soil Evaluation".

This soil rating takes into consideration three factors: (A) Rating on basis of character of profile, i.e., mode of formation or accumulation and degree of weathering, (B) rating on basis of surface texture, i.e., loamy, sandy, gravelly, etc., and (C) rating of conditions and characteristics of the soil which modify its suitability for utilization

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* U. S. Department of Agriculture, 1921, "Soil Survey of Victorville Area", by A. E. Kocher and Stanley W. Cosby.

** Soil Survey of Barstow Area, California, by R. Earl Storie and D. F. Trussell (in press).

in plant production, i.e. drainage, alkali, erosion, etc. Certain soils with low ratings might successfully produce certain special crops although not well suited to a wide range of crops. Climate and transportation, of course, are not taken into consideration in the rating but exert modifying influences.

Each factor is evaluated on a percentage basis, the ideal condition being 100. The percentage ratings of factors (A), (B) and (C) are then multiplied and the result is the "Soil Index Rating".

For California the soils have been divided into six grades as shown in Table 7.

Table 7

Agricultural Ratings of Soil Grades

Grade	Percentage Index	Agricultural Rating
1	80–100	Excellent
2	60– 80	Good
3	40– 60	Fair
4	20– 40	Poor
5	Less than 20	Very poor
6	Less than 10	Non arable

The total area covered by the two surveys is 409,145 acres. The classifications within the boundary of the Division of Water Resources survey are as follows:

Table 8

Agricultural Value of Soils in Mojave River Valley covered by Survey of University of California, 1932 and U. S. Department of Agriculture cooperating with University of California in 1921. *

Area of Soils in acres

District	Grade No.	Amount of Alkali: F (free)	S (slight)	M (moderate)	A (strong)	Total
MOUNTAINS TO VICTORVILLE: Both sides of river	1	723	0	0	0	723
	2	39,162	0	0	0	39,162
	3	59,657	0	0	0	59,657
	4	18,861	0	0	0	18,861
	5	13,450	0	0	0	13,450
	6	30,274	0	0	0	30,274
Total		162,127	0	0	0	162,127
VICTORVILLE TO BARSTOW	1	301	0	0	0	301
Both sides of river	2	3,139	2,367	0	0	5,506
Victorville to Hodge	3	25,492	687	391	0	26,570
South side of river	4	9,315	1,744	515	0	11,574
Hodge to Barstow	5	21,698	16	0	1,226	22,940
	6	3,033	0	0	0	3,033
Total		62,978	4,814	906	1,226	69,924
HINKLEY VALLEY	1	0	0	0	0	0
North side of river	2	4,475	1,221	116	0	5,812
Hodge to Barstow	3	12,591	3,448	0	0	16,039
	4	193	1,250	2,470	0	3,913
	5	4,504	0	0	0	4,504
	6	0	0	0	0	0
Total		21,763	5,919	2,586	0	30,268
BARSTOW TO EAST END OF SURVEY	1	0	0	0	0	0
Both sides of river	2	37	1,253	0	0	1,290
Barstow to Daggett	3	20,859	345	424	0	21,628
North side of river	4	2,327	0	212	0	2,539
Daggett to east end	5	5,544	0	0	1,545	7,089
of survey	6	0	0	0	0	0
Total		28,767	1,598	636	1,545	32,546
DAGGETT TO EAST END OF SURVEY	1	0	0	0	0	0
South side of river	2	0	244	0	0	244
	3	37,515	641	90	0	38,246
	4	3,058	9,151	832	477	13,518
	5	9,485	40	32	6,832	16,389
	6	0	0	0	0	0
Total		50,058	10,076	954	7,309	68,397
GRAND TOTAL		325,693	22,407	5,082	10,080	363,262

* Within the boundaries of the map in pocket.

| | | |

Table 9

Agricultural Value of Soils in Mojave Basin
Summary of Table 8
Acres

Grade No.	Alkali Classification				Total	Percentage
	Free	Slight	Moderate	Strong		
1	1,024	0	0	0	1,924	0.3
2	46,813	5,085	116	0	52,014	14.3
3	156,114	5,121	905	0	162,140	44.7
4	33,754	12,145	4,029	477	50,405	13.8
5	54,681	56	32	9,603	64,372	17.7
6	33,307	0	0	0	33,307	9.2
Total	325,693	22,407	5,082	10,080	363,262	100.0

Table 10

Agricultural Value of Soils in Mojave River Valley
covered by Soil Survey of 1921
but outside of maps in pocket.

Grade No.	Area of Soils in Acres	Percentage
1	0	0
2	13,021	28.4
3	22,763	49.6
4	5,779	12.6
5	2,855	6.2
6	1,465	3.2
	45,883	100.0

As shown by Plates 4-A-B and C in pocket, the different classes of land do not occur in large areas but are scattered over the entire area mapped.

The names of soils included in each class are shown in Table 11.

Table 9

Retail Unit Value of Dairy in Nigeria State
Summary of Data
1978

Commodity	Total	Liquid Dairy Products			Percentage
		Milk	Powdered	Fresh	
1	3,054	0	0	3,054	0.9
2	40,814	0	814	40,000	12.2
3	132,121	0	121	132,000	39.7
4	97,714	714	1,000	96,000	28.8
5	54,000	0	0	54,000	16.2
6	4,714	0	714	4,000	1.4
Total	332,417	714	2,649	329,054	100.0

Table 10

Projected Value of Dairy in Nigeria State Retail
Forecast by Local Survey of 1981
By Commodity of Dairy in Naira.

Commodity	Value of Dairy in Naira	Percentage
1	0	0
2	12,000	3.4
3	36,714	10.3
4	21,000	5.9
5	5,000	1.4
6	1,000	0.3
	75,714	21.3

The income of milk industry in West State are given in Table 11.

Of these to the owners to their income and are accounted over the working area

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Table 11

Names and Descriptions of Soils in Different Gradings for Agricultural Suitability

Grade 1

Hanford very fine sand.

Grade 2

Foster fine sandy loam (slight alkali).
Cajon fine sandy loam (slight alkali).
Rosamond fine sandy loam (slight alkali).
Hesperia loamy fine sand.
Cajon loamy fine sand.
Hesperia loamy sand.
Hesperia coarse sandy loam.
Foster fine sand (slight alkali).
Foster silt loam.
Foster loamy sand (slight alkali).
Adelanto sandy loam, deep phase.

Grade 3

Rosamond silty clay loam (slight alkali).
Daggett loamy sand.
Cajon coarse sand, dark colored phase.
Mojave loam.
Cajon fine sandy loam (moderate alkali content).
Cajon fine sand (slight alkali).
Daggett gravelly sandy loam.
Hesperia sand.
Adelanto loamy sand.
Mojave sandy loam (slight alkali).
Yermo sandy clay loam, dune phase.
Yermo sandy clay loam (slight alkali).
Adelanto sand.
Adelanto sandy loam (slight alkali).

Grade 4

Sunrise sandy loam.
Rosamond silty clay loam (moderate alkali).
Mojave sand.
Yermo sandy clay loam, dune phase (alkali spotted).
Rosamond fine sandy loam (moderate alkali content).
Mojave sandy loam (moderate alkali content).
Yermo sandy clay loam (moderate alkali content).
Cajon coarse sand, loamy phase.
Adelanto sandy loam, heavy phase.
Daggett gravelly sandy loam, stony phase.
Sunrise sand.
Hanford coarse sand.
Cajon coarse sand.
Cajon fine sand, dune phase (slight alkali).
Cajon fine sandy loam (high alkali content).

Table 11, continued

Grade 5

Troy stony sandy loam.
Rosamond fine sandy loam (high alkali content).
Adelanto loamy sand, rolling phase.
Adelanto sandy loam, rolling phase.
Adelanto sand, rolling phase.
Rosamond silty clay loam (high alkali content).
Mojave sand, caliche phase.
Sunrise sandy loam, rolling phase.
Sunrise sandy loam, eroded phase.
Yermo sandy clay loam (high alkali content).
Mojave sandy loam (high alkali content).
Mojave loam, playa phase.
Barstow and Daggett gravelly sandy loam.

Grade 6

Riverwash.
Playa deposits.
Dune sand.
Rough stony land.
Rough broken land.

CHAPTER IV

GEOLOGY OF MOJAVE RIVER VALLEY

A summary of the geological conditions pertinent to the hydrology of the Mojave River ground water basin is presented in the subsequent paragraphs. It has been compiled largely from the literature* of the district, although a portion of the information is based upon records obtained from a large number of wells located throughout the district and from observations made during a few days spent in the field.

The Mojave Basin forms that part of the Mojave Desert region which receives its ground water recharge wholly or in part from the Mojave River and its tributary streams. Its physiography is the typical arid type common to the desert region of the southwest, that is, broad alluvial plains, sloping away from irregular barren hills and mountains which rise from the plains precipitously as stubborn remnants of erosion.

The basin has been formed by the filling of the valleys traversed by the Mojave River with disintegrated rock debris washed down from the San Bernardino and other mountains that border the basin. A clue to the formation of the debris-filled valleys is given by the helter-skelter arrangement of the mountains which form their borders. With the exception of the San Bernardino Range, there is no linear alignment of the ridges so characteristic of the Great Basin. For this reason it is believed that in the main the alluvial valleys, which comprise the basin, owe their formation to normal erosional processes rather than to faulting. However, the

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* Previous reports of the geology of this area include U. S. Geological Survey Bulletin 541, pp. 141-154, 1914, "Reconnaissance of the Barstow-Kramer Region," by R. W. Pack; U. S. Geological Survey Bulletin 613, pp. 143-169, 1916, "Guidebook of the Western United States, Part C, The Santa Fe Route", by N. H. Darton; U. S. Geological Survey Water Supply Paper 578, 1929, "The Mojave Desert Region", by D. G. Thompson; California Univ. Dept. Geology Bulletin, Vol. 7, No. 24, pp. 443-464, 1914, "Pleistocene Beds at Manix, in the Eastern Mojave Desert Region", by J. P. Buwalda. All of these publications have been freely drawn upon.

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great depths of fill that occur in certain parts of the basin can be satisfactorily explained only by the assumption of faulting or folding.

The geologic history of the Mojave River Basin is largely conjectural. There is some evidence, however, that it has been formed by the successive filling with debris and spilling over of the Mojave River into a number of smaller basins which now make up the entire Mojave River Basin. Thick, blue clay deposits which occur in the artesian area in the vicinity of Victorville and again over a very broad area above Afton indicate that the Mojave River has been impounded in these areas. It appears probable from the comparatively small amount of typical Mojave River deposits east of Daggett, that the present course of the river is of recent origin. Possibly the river has been extended since Mid-Pleistocene time, due to increased precipitation in the headwater area, which accompanied uplift of the San Bernardino Mountains. That the Mojave River was larger in comparatively recent times than at present is made evident by the size of former Lake Manix which it supported in the region between Afton and Toomey in the lower Mojave River Valley. From the distribution of the lake beds which outcrop principally in the stream cut of the river between Harvard and Afton, Buwalda* estimated that the lake covered from 200 to 300 square miles, although well data collected by D. G. Thompson** suggest the lake to be somewhat smaller. The reduction in flow of the Mojave River which possibly followed the glacial period, indicates that the region has become more arid. A part of this reduction probably was effected by the loss of a portion of the headwaters drainage area of the Mojave River to Cajon Creek through stream piracy.

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* California Univ. Dept. Geology Bulletin, Vol. 7, No. 24, pp. 443-464, 1914, "Pleistocene Beds at Manix, in the Eastern Mojave Desert Region", by J. P. Buwalda.

**U. S. Geological Survey Water Supply Paper 578, 1929, "The Mojave Desert Region", by D. G. Thompson.

The rocks which form the walls and floor of the alluvial basin are of varied types. For convenience they may be divided into the two following groups: (1) a basement complex of pre-Tertiary age composed of more or less altered sedimentary and igneous rocks; (2) Tertiary lavas, tuffs and breccias associated with sands, gravels and clays of continental origin.

The pre-Tertiary rocks are composed of limestone, schist, quartzite, gneiss, volcanic rocks and various crystalline granitic rocks which are in part older and in part intrusive into the sedimentary rocks. Nearly all of the sedimentary rocks of this group are considered to be of Paleozoic age, of which the larger part belongs to the Carboniferous Period. Due to their great density, the rocks that comprise the basement complex are nearly impervious to the movement of water. For this reason they may be ignored as an important source of ground water supply for the area although small seepages sufficient for domestic supply may locally be obtained from their surficial joints.

Resting with marked unconformity upon a planated surface of the basement complex are volcanics and associated detrital beds of Tertiary age. The rocks of this group, which have an indeterminate thickness of several thousand feet, are distributed over the entire Mojave Desert region. Their outcrops in the Mojave River Basin are most conspicuous in the Barstow-Newberry area, where they form the many hills and ridges that rise abruptly to heights of several hundred feet above the plain. This group is composed largely of volcanic rocks of rhyolite, basalt, latite, andesite, tuff and breccia, which are interbedded with minor amounts of sandstone, conglomerate, shale and limestone. Tertiary rocks attributed to the Upper Miocene and Pliocene (?) periods outcrop along the San Bernardino mountain-front south of Hesperia, and probably occur beneath the Quaternary fill

over much of the Upper Mojave River Valley. Here, they are composed largely of sands of continental origin, more or less cemented with residual clay, together with some shale.

Locally the Tertiary rocks have considerable water-yielding capacity, but in the main, they cannot be considered as an important source of ground water supply. This is due to their predominantly low porosity or fine grain, the limited recharge which they receive in their outcropping areas, and the large depths at which they occur in the valley areas. The Tertiary sands* that form the mountain-front south of Hesperia and apparently much of the floor upon which the more recent fill was deposited, have a limited capacity to yield water. Their water-yielding ability has been greatly restricted by weathering which has caused them to be more or less cemented with residual clay formed in their pores. The Tertiary volcanics, although predominantly dense, may locally yield considerable water through their joints and other interstices. This is evidenced by a large spring** which apparently issues from volcanic tuff at the foot of Newberry Mountain.

The Quaternary fill is composed of detrital material of wide assortment, ranging from coarse boulder beds deposited along the steep mountain fronts to thick beds of sand and clay laid down upon flat or nearly flat surfaces. The depositional slope has been the dominant factor in the determination of the coarseness of material in any locality. In general, the upper two to three hundred feet of sediments, at least, have been deposited upon surface slopes not unlike those existing today. Alteration of the sediments through weathering has in many localities greatly restricted their water-yielding capacities. This condition is brought about where the fill has lain above the water table in the zone of oxidation for long

* Noble, L. F., Excursion to the San Andreas Fault and Cajon Pass, Int. Geol. Congress Guidebook 15, Plate 3, 1932.
**Darton, N.H., op. cit., p. 160.

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periods, prior to their deep burial. This is particularly common in areas of deep water table. As a result of these conditions the basin may be roughly divided into the following areas of similar water-yielding characteristics: (1) the channel of the Mojave River composed of unaltered sands and gravels, capable of yielding water in great quantity; (2) the areas of steep surface slope, largely covered by cones of small tributary streams composed of coarse rock debris, possessing low water-yielding ability, due both to their unassorted texture and to their alteration; (3) the broad alluvial flood plain areas of the Mojave River, containing unaltered, well-assorted sands and gravels of high water-yielding ability.

Neglecting the mountain headwater area the Mojave Basin is, by the nature of its confining boundaries, divisible in a broad manner into the following four parts, each of which can be subdivided further by peculiarities within itself: (1) the Upper Mojave Valley, a broad alluvial plain, extending from the San Bernardino Mountains northward to Victorville; (2) the Middle Mojave Valley, a narrow irregularly shaped alluvial plain, extending from Victorville to a point near Daggett; (3) the Lower Mojave Valley, a broad triangular shaped alluvial plain, having its vertex at a point near Daggett and its base at Cady Mountain; and (4) the region to the north and east of Cady Mountain, commonly known as the sink of the Mojave River, occupied by Cronise, Crucero and Soda Lake valleys, which was not studied in this investigation.

Upper Mojave Valley

The Upper Mojave Valley is a part of a broad piedmont plain that slopes away from the northern front of the San Gabriel and San Bernardino mountains, along which it abuts for a distance of about 100 miles. Its eastern and western limits are formed respectively by the apices of the

cones built by Arrastre Creek (six miles east of the Forks of the Mojave River) and Sheep Creek, (21 miles west of the Forks of the Mojave River). Its southern border is formed by a series of protruding bedrock hills that produce a narrowing of the valley in the vicinity of Victorville and Adelanto. The alluvial fill of the Upper Mojave Valley is apparently truncated on its south by a buried fault, designated here as the Ord Mountain Fault, along the northern toe of Ord Mountain and the front of the hills of Tertiary sandstone which occur north of Horsethief Canyon. Lying between the latter hills of Tertiary sandstone and Ord Mountain are dissected hills of alluvium, bounded on the south by the proposed Forks Reservoir Site and on the north by the above mentioned fault. These sediments have been formed by the outwash of the West Fork of the Mojave River and probably do not have great thickness south of the indicated Ord Mountain Fault. North of the fault and over the greater part of the Upper Mojave Valley the depth of the water-bearing series has not been clearly determined. The wildcat oil well of the Victor Valley Oil Company, Victor No. 1, located in the SE¼ of Section 20, T 5 N, R 5 W, S.B.B.&M., logged water-bearing sands and gravels from the surface to 730 feet; pink shale, brown sandy shale and hard sand from 730 feet to 1350 feet, excluding five feet of water gravel encountered at 1060 feet; and brown shale, lime and schist from 1355 to 1600 feet, total depth. A water well located in the SE¼ of Section 16, T 5 N, R 4 W, S.B.B.&M. reported water-bearing alluvial fill from the surface to 835 feet and hard granite from 835 to 861 feet, total depth. The wildcat well of the Hesperia Oil and Gas Company, No. 1, located in Section 29, T 4 N, R 4 W, S.B.B.&M., logged sand, gravel and gravelly clay from the surface to 885 feet; lime, talc, clay, hard sand and gravel from 885 feet to 1105 feet; hard sand, sandy shale, brown shale and lime from 1105 to 2941 feet; and limestone formation with streaks of fossil

shells from 2941 to 3033 feet, total depth. A water well located in Section 35, T 4 N, R 5 W, S.B.B.&M., and about two miles north of the San Bernardino Mountain-front, encountered the water table at a depth of approximately 750 feet, indicating that the bedrock near the mountain-front is quite deep. It is possible that the material logged largely as hard sand and shale in the Victor Valley Oil Company No. 1 well from 730 to 1350 feet and in the Hesperia Oil and Gas Company No. 1 well from 885 to 2941 feet,may be correlated with the Tertiary sandstone which forms the hills south of Hesperia, and that the rocks penetrated at greater depths are a part of the basement complex. This inference, together with the depth to bedrock in the water well situated in Section 16, T 5 N, R 4 W, S.B.B.&M., and the relatively deep bedrock indicated along the San Bernardino mountain-front would suggest that the Quaternary water-bearing series has been deposited upon a relatively flat surface of the nonwater-bearing series and that it is approximately 800 feet thick in the central part of the valley and somewhat thicker adjacent to the mountain-front along the upper part of the alluvial cones. At least, the pervious fill is approximately limited to these depths.

The Mojave River has entrenched itself in a deep channel, extending over the entire length of the upper valley. In the locality known as the Upper Narrows, near Victorville, it has cut a narrow V-shaped channel into the resistant granitic rocks which form a spur to the hills along the eastern boundary of the river. Above the Upper Narrows it has widened its trench in the non-resistant fill material to an average width of about one mile. Recent fill has been deposited in its newly cut channel to a depth of about 50 feet. This latter figure is based upon test holes bored by the U. S. Geological Survey* in the Upper Narrows.

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* U. S. Geological Survey, Water Supply Paper 140, 1905, "The Rate of Movement of Underground Waters", p. 56.

The material comprising the older Quaternary fill has been considerably altered through weathering and as a result, its specific yield has been greatly reduced. Based on a study of a few well logs and a comparison of the older fill to similar material in the South Coastal Basin, a specific yield of from five to ten per cent is estimated for this altered material. On a like basis a specific yield of from 15 to 20 per cent is estimated for the recent fill deposited in the channel of the Mojave River.

Middle Mojave Valley

The Middle Mojave Valley is a long irregularly shaped area, extending from Victorville to a point near Daggett and is bordered by numerous hills whose steep alluvial aprons blend into a former flood plain of the Mojave River that stands considerably above the present stream channel. In this region the Mojave River is bordered by a recent flood plain, varying in width from a mile to a small fraction of a mile, which lies in the bottom of a trench cut into older deposits of the river. Nearly everywhere the bordering topographic features suggest that the bedrock lies at no great depth, although there are no available logs which give specific information. The regions of shallowest bedrock often manifest themselves by rising water in the channel.

Near Hodge the narrow valley of the Mojave River emerges downstream into a rather broad plain, possessing two outlets through which both surface and underground drainage occur. One is occupied by a gap approximately two and one-half miles wide located to the north and east of Hinkley, and the other is located in the eastern part of the valley and through which the Mojave River continues on its course to Barstow. There is possibly a third underground outlet to the sub-basin located to the west of Hinkley, but the available water levels show no divergence of the water table in this direction. The water table in Hinkley Valley slopes in a

north and easterly direction, a portion of the ground water moving through each of the gaps mentioned. Its movement through the gap to the north and east of Hinkley is greatly restricted by a number of small protruding bedrock hills that crop out in the central portion of the narrows. The underflow through this gap joins the water table of Harper Valley which is a deep structural (?) basin filled with water-bearing debris to a depth of at least 2000 feet. This latter depth is evidenced by the C. C. Hamilton wildcat oil well situated in the Northwest corner Section 11, T 10 N, R 5 W, S.B.B.&M., which reported sand, sandy clay, gravel and conglomerate carrying water to 2000 feet; and lime, shale, hard sandstone, boulders and brown shale to 2187 feet total depth.

Several bedrock prominences occur in the flood plain of the Mojave River in the Hinkley sub-basin, indicating the general shallow character of the fill material. East of the Hinkley sub-basin the Middle Mojave Valley continues again in a narrow confined valley to a point near Daggett where it has its debouchment upon the broad plain of the Lower Mojave Valley.

A blanket specific yield of 15 per cent has been assigned to the Mojave River deposits of this area. The value is based upon the general surficial appearance of the deposits and the consistently large capacity of the wells that produce from them in the flood plain areas. This value is therefore subject to considerable revision with more detailed data.

Lower Mojave Valley

The Lower Mojave Valley is a broad triangular shaped flood plain formed by the Mojave River. By the nature of the movement of its ground water, it may be divided into two sub-basins, one occupying the region to the west of the inferred Forks-of-the Road Fault which traverses the valley in a northwesterly direction from Newberry (see Plate 5-C and Key

Map), and the other occupying the territory to the east of the fault. Along this common boundary line the underground movement of the water has been greatly restricted; an abrupt drop in the water table of from 25 to 40 feet occurs in a downstream direction at the fault. Considerable sedimentary clay, which has produced an artesian pressure area, has been deposited for a distance of about one and one-half miles above the barrier, indicating that the Mojave River has probably been impounded from time to time as displacement occurred along the fault. All vestiges of the fault in the flood plain area, such as escarpments, have been either erased by erosion or buried by later debris. A direct effect of the fault is the high water table which has encouraged the growth of much water loving vegetation, which has in turn given foothold to numerous sand dunes that cover a large part of the area above the barrier.

The river has entrenched itself into a rather narrow channel which becomes progressively deeper downstream from the upper part of the Lower Mojave Valley. Near Daggett its walls are 15 to 25 feet high, while a short distance below Harvard they rise about 75 feet above the channel. This trenching has resulted from a lowering of the local base level in the eastern end of the valley where the river has cut a rather narrow gorge into resistant bedrock.

The water table of the Lower Mojave Valley slopes in an easterly direction and more or less follows the general inclination of the plains. Ground water "spills" over the high bedrock present in the lower part of the Middle Mojave Valley into the deeper fill of the Lower Mojave Valley at a point about two miles west of Daggett where the water table stands at a depth of approximately 40 feet below the river bed. Beyond this point the water table gradually approaches the surface of the more steeply sloping stream channel toward the Forks-of-the-Road Fault, where it abruptly drops

to depths of from 25 to 40 feet. From here it again gradually approaches the stream level in a downstream direction as the bedrock becomes shallower.

The thickness of the water-bearing materials has not been determined over the greater part of the Lower Mojave Valley. According to Thompson*, a number of wells located in the upper part of the valley have penetrated nearly 500 feet of water-bearing materials without reaching bedrock. A small remnant of lava rises above the plain about two miles northwest of Newberry. This bedrock protrusion, which is possibly related to the Forks-of-the-Road Fault, suggests an irregular bedrock floor. Bedrock also rises to the surface at the lower end of the valley in the stream cut of the Mojave River.

An analysis of well logs included in the U. S. Geological Survey Water Supply Paper 578 gives for the top 175 feet of material in the upper sub-basin: gravel 40 per cent, sand 24 per cent, and clay 36 per cent. Assuming a specific yield of 18 per cent for the average gravel of this locality (maximum ten per cent grade size** of 32 mm.), 22 per cent for sand, which allows for a relatively large per cent of fine material, and 1 per cent for the clayey material, an average specific yield of 13 per cent is indicated. A similar classification of the logs of the lower sub-basin gives: gravel 5 per cent, sand 46 per cent, and clay 49 per cent. Using the same specific yield values as assumed for the individual groups of material for the upper sub-basin, a specific yield of 11 per cent is indicated for the lower area.

These analyses bring out a striking increase in both the sand and clay content in the lower sub-basin at the expense of the gravel,

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* Thompson, D. G., op. cit., p. 449.

**California State Division of Water Resources, Bulletin 45, "Geology and Ground Water Storage Capacity of Valley Fill", by Rollin Eckis, Plate XI.

which decreases from 40 per cent in the upper area to 5 per cent in the lower area. A large part of the clay beds in the lower sub-basin, no doubt, occur in thick confining blankets, and therefore would be only partially drained by a lowering of the water table.

CHAPTER V

MOUNTAIN HEADWATERS

The headwaters of Mojave River cover 217 square miles and drain practically all of the north slope of San Bernardino Mountains, which rise to general heights of 8000 feet at the summit and slope downward to an elevation of about 3000 feet at their toe. The drainage area is forested in its higher elevations and much of the precipitation occurs as snow. The headwaters comprise two major branches, West Fork, 75 square miles, and East Fork (Deep Creek), 137 square miles above stream gaging stations which unite head on just above the plain at the Forks and form the Mojave River.

Due to the activities of the Arrowhead Corporation, data on rainfall and runoff are unusually numerous in the headwaters of Mojave River and it is possible to estimate the discharge of the tributaries at numerous points with considerable accuracy. In addition, the Corporation located and surveyed several reservoir sites of apparent feasibility and constructed one now known as Lake Arrowhead. Through the courtesy of Mr. J. B. Van Nuys, these records were made available to the Division of Water Resources and have been used as the basis for all estimates of discharge at various points incorporated herein.

Arrowhead Project

"The predecessor of the present Arrowhead Reservoir and Power Company was the Arrowhead Reservoir Company, organized in 1891, the principal stockholders being Cincinnati capitalists. The original plan was a colossal undertaking. It was proposed to construct a main reservoir in Little Bear Valley which would impound the natural drainage of Little Bear Creek, a tributary of Deep Creek. An inlet tunnel, now partly constructed,

Chapter 2

Historical Background

The development of Kalgoorlie-Boulder as the major urban area and commercial centre of the Eastern Goldfields Region is a direct consequence of the discovery of gold in the region in the late 19th century. The discovery of gold in the Kalgoorlie area led to the establishment of a mining town and the subsequent development of a regional service centre. The growth of the town was closely linked to the fortunes of the mining industry, which remained the dominant economic activity in the region for many years.

The early settlement of the Eastern Goldfields was characterised by a rapid influx of prospectors following the discovery of gold. The population of the region grew from a few hundred people in the 1880s to over 30,000 by the early 1900s. This growth was accompanied by the development of infrastructure, including roads, railways, and water supply systems. The construction of the railway line from Perth to Kalgoorlie, which was completed in 1896, was a significant factor in the development of the region.

Economic Growth

The economic growth of the region was closely linked to the fortunes of the mining industry. The discovery of gold led to a rapid increase in economic activity, and the region became a major source of gold for the world. The development of the mining industry also led to the establishment of a number of other industries, including engineering, construction, and transport.

was to be made from the reservoir eastward to Deep Creek and extended from this stream to Crab and Holcomb creeks to collect all drainage above the tunnel and carry it into the reservoir. Diversion dams and regulating reservoirs were to be located at Deep, Crab and Holcomb creeks and the flow of the smaller streams was to enter the tunnel through shafts. All of these works would be in the Deep Creek watershed. Another reservoir was to be constructed in Grass Valley, westward of the main reservoir and on a tributary of the West Fork of the Mojave River, and this supplemental basin was to be connected with the main basin by a tunnel. Two other reservoirs were to be located in mountain flats, the sites for which were later abandoned. Water was to be taken from the main reservoir by an outlet tunnel through the San Bernardino Range and delivered for the irrigation of lands south of the mountains. The company had no lands for sale and made no contracts for the delivery of water.

"A masonry dam, to form the main reservoir, was begun on Little Bear Creek, but by the time the foundation was constructed it was found that suitable rock in sufficient quantity to construct a masonry dam was not to be had near the site. This caused a suspension of construction which was prolonged for a number of years. Data on the amount of water for storage had been meagre and the supply had been overestimated. In 1892 a series of precipitation and runoff measurements was begun throughout the watershed which was continued for 13 years before construction was resumed.

"Until 1895 the development of power had not been considered in connection with the project. About that time, when it became known that long transmission of electrical power was practicable, it was planned to utilize the energy of the water in its descent on the southern slope of the mountains.

"In 1905 the property was transferred to a new corporation, the Arrowhead Reservoir and Power Company, capitalized at $6,500,000 with nonassessable stock of which $500,000 was 5 per cent preferred and the remainder common stock. Shares representing about $600,000 par value were issued and placed in the hands of a trustee, no payments having been made on these shares. Some of the stockholders have taken notes of the company for other obligations, but the company has no indebtedness outside of the stockholders.

"The type of dam for the Arrowhead site was changed to a semi-hydraulic fill with concrete core. The plan of outlet works was also modified. The Burcham Ranch, now called Rancho Las Flores, containing 5,240 acres and including the Forks reservoir site on the West Fork of Mojave River near the Forks, also two dam sites farther upstream on the West Fork and known as the West Fork sites numbers 2 and 3, were acquired. It was proposed to convey the water in Little Bear Valley reservoir to the Forks reservoir, using the intervening drop for power development. The water would be combined in the Forks reservoir with that received from the natural drainage of the West Fork. This lower reservoir was then to be drained by a tunnel through the mountain range to the south side, where another power drop would be located and below which the water would, as under the former plan, be delivered for irrigation in San Bernardino Valley.

"About 1909 some of the owners of riparian lands on Mojave River, including the Hesperia Land and Water Company, filed suits to prevent the company diverting water from the watershed, but the cases have not been brought to trial. In 1912 application was made to the California Railroad Commission for permission to issue $4,000,000 in bonds when riparian land owners again opposed the plans of the company by protesting against the

granting of the application. The application was denied, without prejudice, for the stated reason that the company's title to water was uncertain until the cases were decided by the courts. The record of the hearings conducted by the commission on the application shows the following:

Valuation put on property at time of reorganization	$1,191,000
Spent by new company since reorganization	923,204
Principal owed by new company	793,796
Interest owed by new company	126,589
Total	$3,034,589

"About this time the company, or a trustee of some of the stockholders, began to purchase riparian lands on Mojave River mainly for the purpose of quieting opposition from adverse water right claimants, and 1000 acres just below the Forks and 3200 acres, together with most of the older and more useful ditches between Victorville and Barstow, were acquired. This property included the Westwater lands below Victorville.

"It had been the intention to purchase more riparian lands, but owing to the decision of the State Supreme Court about this time to the effect that flood waters of a stream could not legally be diverted from the natural drainage basin,* a radical change in plan was adopted which made this no longer necessary. It was now decided to use the water for the development of power and irrigation on the north side instead of the south side of the mountains. In 1914 an offer, which was not accepted, was made to the city of San Diego to sell the water from the system, the diversion from the watershed for domestic use not being illegal.

"In addition to agricultural lands below the Forks, the company holds about 12,000 acres in the mountains, mainly in the Little Bear Valley, Grass Valley and Forks reservoir basins. The company claims riparian rights appertaining to the extensive lands above and below the Forks,

*Miller & Lux vs. Madera Canal and Irrigation Company, 155 Cal. 60.

also appropriation rights on all streams above the Little Bear Valley reservoir inlet dating from 1890 and on the West Fork and Deep Creek dating from 1905."*

In 1923 the property was acquired by the Arrowhead Corporation, in whose name it still stands. Efforts to continue the plan have been abandoned by the Corporation. The reservoir forms a beautiful mountain lake. A resort of considerable fame has been established with the lake as a nucleus. Much of the land bordering or near the lake has been subdivided and sold.

The following construction has been completed:

Thirteen thousand feet of a concrete-lined tunnel 6' x 7' in section from Deep Creek to Arrowhead Lake. There remains 5370 feet unbored.

A 4' x 6' concrete-lined tunnel 5102 feet long from the gate tower at Lake Arrowhead to Willow Creek.

A similar tunnel as part of the outlet system, 2500 feet long. Bore completed but not lined.

A 5' x 7' concrete-lined tunnel 2800 feet long from Grass Valley to Arrowhead Lake.

Arrowhead Dam, a semi-hydraulic fill with concrete core, to a height of 200 feet above streambed. As projected it was to be 27 feet higher. Present capacity of reservoir is 54,000 acre feet. The projected capacity is 61,000 acre feet. Outlet works are complete.

No work has been done on the remaining features of the project.

Precipitation

Monthly and annual precipitation records are given in Appendix 1, Table 39, and locations of stations are shown on Plate 2. From the records the 50 year average rainfall beginning 1883-84 at the

* Excerpt from State Department of Engineering Bulletin No. 5, "Report on the Utilization of Mojave River for Irrigation in Victor Valley, California, 1918".

[illegible]

[illegible]

[illegible]

several stations where the record is more than 10 years in length, is estimated to be as follows:

Table 12

Principal Precipitation Stations
Maintained by Arrowhead Corporation and others
in and near Mountain Headwaters of Mojave River

Station	Elevation above sea level	Length of record years	Estimated 50 year mean inches
Ash Meadows	4650	10	23.75
Big Bear Lake Dam*	6800	50	38.27
Deep Creek	5200	17	34.58
Forks of Mojave	3000	16	13.17
Gate House in Little Bear Valley	5100	33	36.40
Grass Valley at Saw Mill	5190	12	41.37
Hesperia**	3190	10	8.18
Holcomb Creek	5250	16	24.46
Morse's	5350	21	58.07
Squirrel Inn	5280	29	46.31
Victorville	2716	15	5.21

* In headwaters Santa Ana River.
**In Mojave River Valley.

Stream Discharge

The discharge records at the various gaging stations maintained by the Arrowhead Corporation have been used to estimate the average runoff for the 29 year period beginning 1905-06. Where the record is more than 10 years in length these estimates are shown in Table 13 and the locations of gaging stations are shown on Plate 2.

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[illegible]

Table 12

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[illegible]
[illegible]

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

* [illegible]
** [illegible]

[illegible]

[illegible]

PLATE 2

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES
MOHAVE RIVER INVESTIGATION

STREAM FLOW AND PRECIPITATION GAGING STATIONS

MAINTAINED BY

LAKE ARROWHEAD COMPANY

SCALE 1 .05 0 1 2 3 4 5 6 7 MILES

1931

LEGEND
- RAIN GAGING STATIONS
- STREAM GAGING STATIONS
- WATERSHED BOUNDARY

RAIN GAGING STATIONS

15 ASH MEADOWS
4 BURTON RANCH
28 CANYON REDONDO
27 COXS CANYON
25 CRAB PARK
33 CRAFTS PEAK
20 DALY SUMMIT
24 DEEP CREEK
32 DEEP CREEK EAST FORK
31 DEEP CREEK SOUTH FORK
17 FLEMMINGS MILL
1 FORKS OF MOHAVE
16 GATE HOUSE
13 GRASS VALLEY
29 GREEN VALLEY
23 HEAPS PEAK
37 HELENDALE
35 HESPERIA
26 HOLCOMB CREEK
34 HOLCOMB CREEK UPPER
30 HUNSAKER FLAT
7 HUSTON FLAT
22 KUFFLES
2 LOS FLORES (BURCHAM RANCH)
21 MEASORS
19 MORSES
10 RIDGE NORTH
14 SECTION NINE
5 SHATTUCKS MILL
11 SQUIRREL INN
12 STRAWBERRY FLAT
3 SUMMIT NO. 2
18 TALMADGE
8 TUNNEL NO 2
9 TUNNEL C
6 UPPER TOLL GATE
36 VICTORVILLE

STREAM GAGING STATIONS

20 BUCKS CREEK
16 CEDAR CREEK
24 COX CREEK
21 CRAB CR. ABOVE JCT. BUCK CR.
19 CRAB CR. BELOW JCT. BUCK CR.
18 DEEP CREEK
25 DRY CREEK
1 EAST FORK MOHAVE RIVER
14 FERN CREEK
5 GRASS VALLEY CREEK
10 GUERNSEY CREEK
26 HOLCOMB CREEK
13 HOOKS CREEK
3 HUSTON FLAT CR.
12 LITTLE BEAR CREEK
11 LITTLE BEAR RES N END TUNNEL 1
22 MIDWAY CREEK
9 MILL CREEK
27 MOHAVE R AT LOWER NARROWS
28 MOHAVE R. AT ROCKY POINT
23 PINE CREEK
8 ROCK CAMP CREEK
7 ROCKY GULCH
4 SADDLE CREEK
15 SHAKE CREEK
17 SHEEP CREEK
6 TUNNEL C
2 WEST FORK MOHAVE RIVER

HELENDALE
BRYMAN
ORO GRAND
VICTORVILLE
FROST
HESPERIA
SUMMIT
MOHAVE RIVER
LAKE ARROWHEAD (LITTLE BEAR RES.)
Tunnel C
Tunnel 1
SAN BERNARDINO MTS.
SAN BERNARDINO MERIDIAN
R. 4 W.
R. 3 W.
R. 2 W.
T. 6 N.
T. 5 N.
T. 4 N.
T. 3 N.

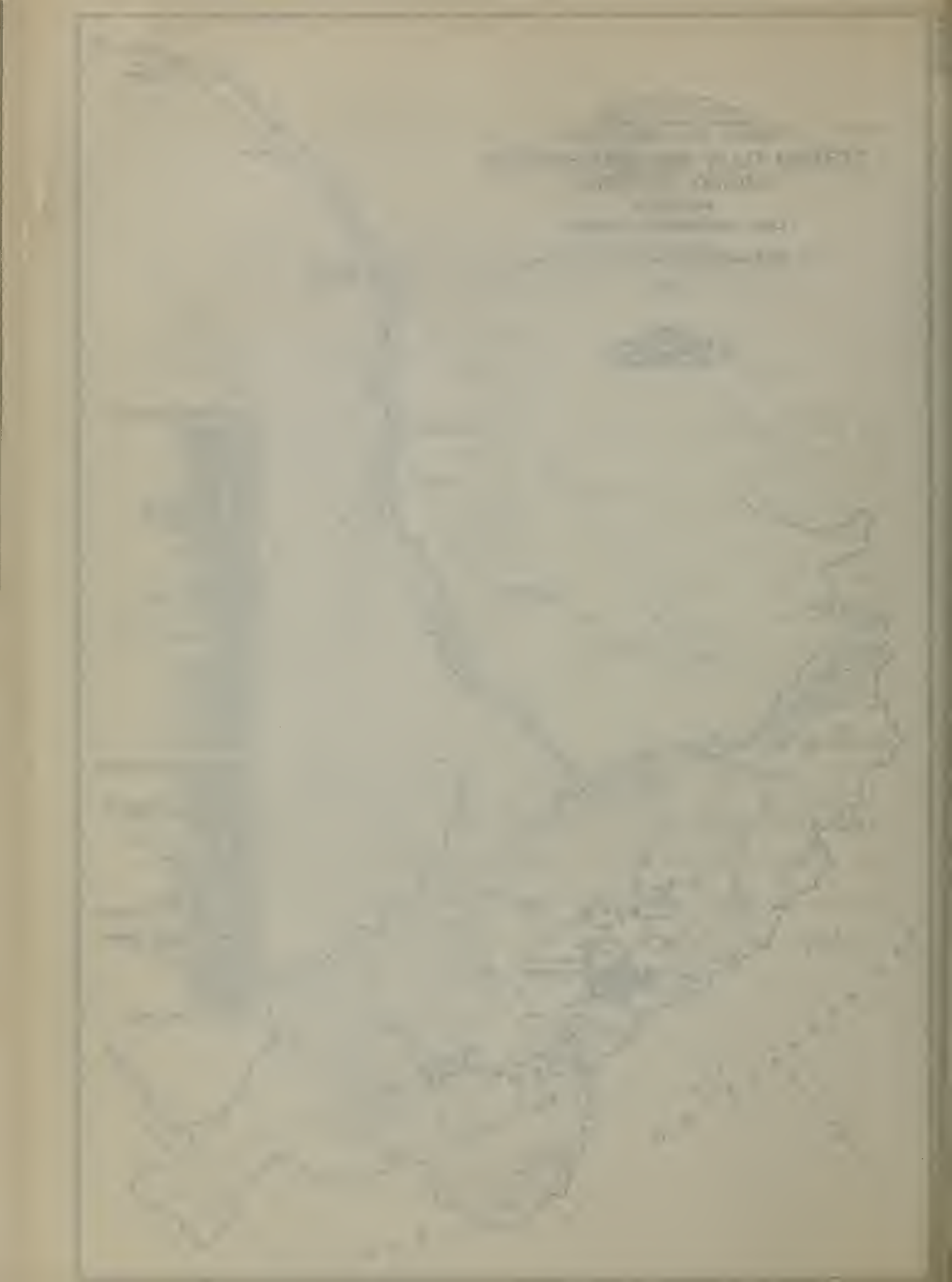

Table 13

Stream Gaging Stations Maintained by
Arrowhead Corporation and U. S. Geological Survey
in Mountain Headwaters of Mojave River

Station	Elevation above sea level	Length of record complete seasons	Estimated annual mean discharge for 29 year period beginning 1905-06
Buck Creek above junction Crab Creek	5650	1	
Cedar Creek	5300	2	
Cox's Creek	5200	2	
Crab Creek above junction Buck Creek	5750	3	
Crab Creek below junction Buck Creek	5200	14	2,600
Deep Creek below Green Valley Creek	5350	17	15,700
Dry Creek	5500	3	
East Fork Mojave River	3000	20	57,000
Fern Creek	5350	2	
Grass Valley Creek	5100	16	2,600
Guernsey Creek	5150	2	
Holcomb Creek	5250	17	8,000
Hook's Creek	4950	3	
Huston Flat Creek	4400	3	
Little Bear Creek	4950	13	8,400
Mill Creek	5000	0	
Midway Creek	5100	2	
Mojave River below Forks	3000	19	90,300
Pine Creek	5250	2	
Rock Camp Creek	4900	3	
Rocky Gulch	4900	3	
Saddle Creek	4900	1	
Shake Creek	5400	2	
Sheep Creek	5200	2	
West Fork Mojave River	3000	19	33,300

The monthly and seasonal discharge records are shown in Appendix 1, Table 40.

The percentage of the mean annual discharge occurring each season, and the percentage of each season's flow occurring each month at the gaging stations, on East Fork of Mojave River and on West Fork of Mojave River shown on Key Map, are given in Appendix 1, Table 41.

Reservoir Sites*

All possible reservoirs on the Mojave River except that immediately above Victorville are in the mountain headwaters. Their locations are shown on Key Map and on Map 5A in pocket. Descriptions follow, including the Victor site for convenience although it is not in the headwaters.

Victor Reservoir Site The dam site is in solid granite. It was drilled in 1899 by the U. S. Geological Survey.** Maximum depth to bedrock is 46 feet. The gorge is 140 feet wide at streambed and at 145 feet above the stream is 350 feet wide. A considerable portion of the site is moist land caused by the rising water from the Victor Basin. Of the area beneath the highest flow line 760 acres were in crop in 1929. A little over two miles of the main line of the Santa Fe railroad passes through the lower end.

Table 14

Victor Reservoir Site Capacity Table

Elevation water surface above streambed Feet	Area Acres	Capacity Acre Feet
80		75,000
100		134,000
120		218,000
130	5,800	271,000
140		350,000

Water supply available to the reservoir is shown in Table 2.

Forks Reservoir Site This is situated on West Fork just above the Forks. The site lies along the contact of the valley alluvium with the granites

*From Bulletin 5 previously cited.

**Eighteenth and Twenty-first Annual Reports of the United States Geological Survey.

of the mountains. The stream has cut its way through a spur from the mountains and this forms the dam site. A conduit from East Fork would divert a part of its waters to the reservoir site. Exploration at the site was done by the Arrowhead Company, which sunk a test hole and shaft and report bedrock at this point to be 18 feet below the surface.* The site is narrow and for it a constant angle arch concrete dam has been designed.**

Table 15

Forks Reservoir Site
Area and Capacity Table

Elevation above streambed Feet	Area Acres	Capacity Acre Feet
0	1	0
20	25	113
40	155	1,894
60	289	6,372
80	466	13,882
100	751	25,710
120	1149	44,378
140	1707	72,492
160	2387	113,459

Average estimated discharges of East and West Forks are shown for various periods in Tables 16 and 17.

Table 16

Estimated Discharge
of East Fork of Mojave River

Period	Number of years	Average annual Acre Feet	Per cent of 29 year average
1905-06 to 1933-34	29	57,000	100
1895-96 to 1904-05	10	25,000	44
1922-23 to 1933-34	12	28,800	51

* Bulletin No. 5, Department of Engineering, State of California, "Utilization of Mojave River for Irrigation of Victor Valley, California", 1918, by Mojave River Commission.

** "Irrigation System for the Mojave River Irrigation District", 1923. Unpublished report by J. B. Lippincott.

Table 17

Estimated Discharge
of West Fork of Mojave River

Period	Number of years	Average Annual Acre Feet	Per cent of 29 year average
1905-06 to 1933-34	29	33,500	100
1895-96 to 1904-05	10	17,000	51
1922-23 to 1933-34	12	17,500	52

The Mojave plain slopes northward away from the dam site and the rim is only 100 feet above the stream channel at a saddle northeast of the dam site, necessitating an auxiliary embankment if water surface in the reservoir should be raised above that elevation.

From the saddle the terrain drops 120 feet in about 600 feet to Mojave River bottoms. The question of percolation through this alluvial ridge was considered by a board of engineers* which concluded as follows:

> "The results of field examinations, laboratory tests, and theoretical computations of the probable ground water flow through the saddle on the northern rim of the West Fork Reservoir site, lead to the conclusion that it is a satisfactory foundation upon which to construct an earthen fill dam to impound water to an elevation of 3140 feet as proposed by your engineers.
>
> "There will be a large rate of absorption through the sides and bed of the reservoir during the early period of its use, which probably will diminish from year to year, as the reservoir becomes silted up and as the ground water levels assume flatter gradients. Fortunately, the years of greater loss by absorption will be those of relatively smaller demand. We do not believe that the permanent loss by absorption will be sufficient to materially impair the value of the reservoir site."

West Fork Reservoir Site No. 2 This was surveyed by the Mojave River Commission and a geological report was made but no exploration of the dam site was done. The dam site is in good granite. The cross section shows

* "Permeability of the Northern Bank of the West Fork Reservoir Site", 1923, by J. A. Quinton, Charles Bradshaw and J. B. Lippincott. Unpublished Report.

Period	Number of Births	Average Annual Rainfall	Mean Level of Ground Water
1900-09 to 1905-09	19	31.00	120
1910-19 to 1915-19	21	47.00	71
1920-29 to 1925-29	14	23.00	42

a width of about 600 feet at streambed and 990 feet at 130 feet above streambed.

Table 18

West Fork Reservoir Site No. 2
Area and Capacity Table

Elevation of water surface above streambed Feet	Area Acres	Capacity Acre Feet
0	0	0
5	20	100
25	70	800
45	150	3,300
65	245	8,300
85	340	15,000
105	420	22,800
125	495	30,800
130	520	34,000

Average estimated discharge at the site for different periods is shown in Table 19.

Table 19

Estimated Discharge
at West Fork Reservoir Site No. 2

Period	Number of years	Average annual Acre Feet
1905-06 to 1933-34	29	24,300
1895-96 to 1904-05	10	12,400
1922-23 to 1933-34	12	12,700

West Fork Reservoir Site No. 3 This was also surveyed by the Commission. No exploration work was done at the dam site but it is in good granite. The cross section of the site shows a width of about 750 feet at the bottom and 1075 feet at 130 feet above bottom.

A study of women 20-34 years of age showed that 20% had a history of [illegible]
[illegible].

[illegible]

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Table 20

West Fork Reservoir Site No. 3
Area and Capacity Table

Elevation of water surface above streambed Feet	Area Acres	Capacity Acre Feet
0	0	0
5	5	40
25	40	700
45	90	2,800
65	150	6,100
85	220	12,000
105	290	19,800
125	375	30,000
135	430	35,000

Average estimated discharge for various periods is shown in Table 21.

Table 21

Estimated Discharge
at West Fork Reservoir Site No. 3

Period	Number of Years	Average annual Acre Feet
1905-06 to 1933-34	29	23,200
1895-96 to 1904-05	10	11,800
1922-23 to 1933-34	12	12,200

Deep Creek Reservoir Site Dam proposed by Arrowhead Corporation was to be 150 feet high above streambed, giving 2000 acre feet of storage. It was proposed as part of the diversion system from creeks east of Arrowhead Lake to the Lake.

Grass Valley Reservoir Site Dam proposed by Arrowhead Corporation was to be 90 feet high above streambed, giving 7600 acre feet of storage. It was proposed as a regulator of Grass Valley Creek west of Lake Arrowhead to which it would be diverted.

Holcomb Creek Reservoir Site. Dam proposed by Arrowhead Corporation was to be 70 feet high above streambed, giving 1000 acre feet of storage. It was proposed to divert Holcomb Creek to Lake Arrowhead.

Evaporation

Records obtained by Arrowhead Corporation at Lake Arrowhead give annual evaporation shown in Table 22.

The record is from a three foot pan floated in a concrete basin and surrounded by one foot of water. Measurements were made at 6 A.M. and 6 P.M. in summer and 9 A.M. in winter.

Table 22

Evaporation at Lake Arrowhead
October to September, inc.

Year	Evaporation Inches
1895-96	35.01
1896-97	39.99*
1899-1900	43.80

* March estimated to be 1.0 inch.

CHAPTER VI

HYDROLOGY

Immediately below the Forks the stream debouches onto the plain which is formed by the broad outwash slopes of the mountains and is quite regular in its topography. In this it has entrenched itself and flows for about 14 miles in a broad sandy wash through bottom lands from one to two miles wide, cut about 100 feet below the plain. In the direction of flow the general slope approximates 20 feet to the mile.

Below the Forks the course of the stream is north about 30 miles, then northeastward 20 miles, then eastward 55 miles to Soda Lake, and finally northward 15 miles to Silver Lake. Surface contributions are negligible below the Forks but some underflow can be detected, principally from the west side, reaching the stream below the town of Victorville. Below Barstow there is possibly a negligible underflow from the south.

Below Baxter, a station on the Union Pacific Railroad, there is a broad debris cone which is very absorptive. The stream flow at this point, which occurs only during very infrequent floods, wanders over this debris cone on which it splits into two diverging channels, one channel carrying water northerly into East or Upper Cronese Valley where a lake has been formed and at the northerly end of which overflow through a low gap would carry the water to another basin known as West or Lower Cronese Valley. The other channel carries the water easterly onto Soda Lake, a broad alkali flat which offers no surface storage, but over which the flood flow spreads for a considerable area, saturating the soil from which it later evaporates. At the lower end of Soda Lake the remaining flow regathers and passes through a low narrow gap into Silver Lake, which at present is the extreme end of the Mojave River stream flow. There is direct evidence that Silver Lake has overflowed during recent times, in which

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case the water would reach the Amargosa River near Salt Spring and thence by this channel reach the Salt Pools in the bottom of Death Valley.

Although there are small contributions by underflow possibly as far east as Harvard, a station on the Union Pacific, the stream begins to lose water as soon as it leaves the mountains by evaporation, percolation into the streambed in the reaches where the water table is far enough below the surface and transpiration from vegetation along its course, and only the larger floods find their way into the lakes mentioned above where the waters are finally evaporated.

At no place along the stream is the water table distant below the streambed, the greatest depths being about 40 feet five miles below the Forks and about 25 feet nine miles above Barstow during the period of this investigation. Along most of the course the water table is so close to the surface that a growth of cottonwoods is maintained and in some places tules, willows, etc. At frequent intervals along the bed a small surface stream is found where the underflow has been forced to the surface.

Fourteen miles below the Forks are the Upper Narrows, formed by a low granite ridge across the course of the river and through which the river has cut. Except for the underflow of about five-tenths* second foot all the water which has percolated above is here forced to the surface.

The surface flow due to rising water continues on past the Lower Narrows, which are three miles below the Upper Narrows, and through a broad canyon-like section for another 14 miles where it disappears into the broadening valley, but evidences of high water table continue for many miles.

In the 17 miles from Victorville north where rising water is found there is a considerable agricultural development both from gravity

*U. S. Geological Survey Water Supply Paper 142, "Rate of Movement of Underground Waters", pp. 55-63, by W. S. Slichter.

diversions and pumping in the bottom lands because of ease in obtaining water. The same condition exists above Upper Narrows where a similar development exists. A series of springs enters the river from the west between the Upper and Lower Narrows. This water is believed to come from the waters of the small streams to the west as far as Sheep Creek which have percolated into the plain.*

Below Barstow, as shown by Plate 5-C in pocket, the underflow appears on the surface at three different places, and throughout the entire length until Baxter is reached a growth of trees along the river's course is maintained.

Stream Gaging Stations

In addition to those in the mountain headwaters maintained by the Arrowhead Corporation, the following permanent stations have been maintained in the valley:

East Fork at Mouth
Lake Arrowhead Corporation: Dec., 1904 to Sept., 1922, inc.
U. S. Geological Survey: Jan., 1930 to Sept., 1934, inc.

West Fork at Mouth
Lake Arrowhead Corporation: Dec., 1904 to June, 1922, inc.
U. S. Geological Survey: Feb., 1930 to Sept., 1934, inc.

Mojave River at Upper Narrows (Victorville)
U. S. Geological Survey: Mar., 1899 to Dec., 1906, inc.
Dec., 1930 to Sept., 1934, inc.

* It is difficult to define exactly the western boundary of Mojave River Basin in its upper part. Contours of Water Table in the report of the Mojave River Commission are lacking near Sheep Creek, south of an east and west line through Victorville. North of this line contours contained on map published in Bulletin 5 indicate the hydrographic divide to be about two miles east of Sheep Creek and about seventeen miles west of Victorville. The northernmost tip of Shadow Mountains is about six miles north of the east and west line through Victorville and about five miles east of Sheep Creek so that underground water from Sheep Creek which gets to a point directly west of Victorville probably could not move toward Mojave River. It is probable that some water which has percolated from Sheep Creek in its first six miles below the mountain toe moves toward Mojave River underground. The hydrographic divide at Sheep Creek would cause Sheep Creek water to flow northerly fanwise in part probably going to Antelope Valley, in part to the sink to the north and in part probably to Mojave River.

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Mojave River at Lower Narrows
Lake Arrowhead Corporation: Dec., 1904 to Sept., 1915, inc.

Mojave River at Point of Rocks
Lake Arrowhead Corporation; Dec., 1908 to June, 1911, inc.

Mojave River at Hodge
U. S. Geological Survey: Oct., 1930 to Sept., 1932, inc.

Mojave River at Barstow
U. S. Geological Survey: Oct., 1930 to Sept., 1934, inc.

Mojave River at Afton
U. S. Geological Survey: Jan., 1930 to Sept., 1932, inc.

In addition to these regularly maintained gaging stations, measurements were made by the U. S. Geological Survey on the same day once each week during 1931-32 when flood waters were not in the stream at Upper Narrows gaging station, Lower Narrows, Bryman, Helendale (just above Point of Rocks), Wild and Hodge gaging station. A few measurements were made at some of these points and at other points prior and subsequent to 1932. Those of 1931-32 are used herein because most complete.

Complete daily and monthly records of discharges at stations and results of the isolated measurements are found in the Water Supply Papers of the U. S. Geological Survey. The monthly records of the Arrowhead Corporation are published as a part of this report. The daily records are contained in a mimeographed publication of the Division of Water Resources. These and the monthly records were calculated by the Division of Water Resources from original data furnished by the Corporation.

The West Fork and East Fork stations do not measure the entire mountain runoff as there are diversions above the West Fork station for irrigation in the mountain valleys and the diversion for the conduit leading to Hesperia above the East Fork station. Arrowhead Lake also loses water by evaporation and there is some irrigation around it. Prior to its development the floor of the lake was of a swampy nature so that evaporation

Baker, Clyde and Alice Gilchrist
Lake Accident Conference. Denv., 1956 in Rept., 1957, Inc.

Bayne, Alice and Frank Lowe
Lake Experimental Progress Inc. Denv., 1956 in Rept., 1957, Inc.

Bayne, Alice and Frank Lowe
U. S. Technical Survey Serv., 1955 in Rept., 1957, Inc.

Bayne, Alice and Frank Lowe
U. S. Technical Survey: Serv., 1955 to Serv., 1974, Inc.

Bayne, Alice and Lowe
U. S. Technical Survey Serv., 1955 to Serv., 1958, Inc.

from the lake is not entirely a new draft on the stream. When the recorded discharges of the two forks are added, the discharge of Mojave River at the mountain toe is the result. The estimates of mountain runoff herein used are from the recorded discharges.

All these various records are useful in determining percolation in various areas, rising water at various points, consumptive use of the cultivated and natural vegetation along the river. The record at Afton gives the final waste past which any use of water for a general development is not possible.

Measured Losses of Water in Plains Area

From the Forks to Upper Narrows

During the investigation of the Division of Water Resources the water table stood at about 40 feet below the streambed at a distance of five miles below the Forks. After the flood of 1932 it had raised 25 feet but fell 20 feet during the succeeding summer. From this point the depth gradually decreases upstream to the Forks and downstream to a distance of about four miles above Upper Narrows where the water table intercepts the surface. Trees, evidencing high water table, are found in the river bottom extending six miles above the Upper Narrows.

Discharge records give the loss in this section of the river. If corrected for change in underground storage the result would be the consumptive use.

Table 23

Loss from the Forks to Upper Narrows
Annual Acre Feet, October to September, inc.

	Discharge at Forks	Discharge at Upper Narrows	Loss or Gain
1904-05	105,300*	97,600	7,700 loss
1930-31	15,400	21,700*	6,300 gain
1931-32	99,300	84,200	15,100 loss
1932-33	22,500	23,900	1,400 gain
1933-34	16,100	23,800	7,700 gain

* October and November estimated.

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The above indicates a regimen typical of such underground basins. In the approximately normal years such as 1931-32 and 1904-05 following years of small runoff, the outflow is less than the recharge and in low years the reverse is true. In addition to the surface outflow measured at the Narrows there is draft caused by the consumptive use of vegetation, evaporation from the stream surface, and underflow, which as previously stated, is estimated by Slichter to be five-tenths second foot.

Consumptive use in this section of the river may be estimated by comparing the amount of rising water in the winter month in which evaporation and transpiration is the least with the amount in other months of the year. The difference should approximate the consumptive use, when corrected by a small addition to allow for evaporation in the month on which the estimate is based. To do this, years in which floods are at a minimum must be used in order to avoid inaccuracy caused by calculating a differential between two large flows. Although older records indicate some years in which there were no floods, it is deemed advisable to use only the records in late years because of greater accuracy. In the table, January of both 1933 and 1934 gave the greatest discharge and that month is used as the base.

Table 24

Rising Water at Upper Narrows, and
Consumptive Use, Forks to Upper Narrows

	1932-33	1933-34
Oct.	1,840	1,820
Nov.	2,140	2,170
Dec.	2,520	2,420
Jan.	2,920	2,780*
Feb.	2,370	2,200
Mar.	2,400	2,180
Apr.	2,140	1,810
May	2,020	1,690
June	1,510	1,540
July	1,380	1,210
Aug.	1,210	1,110
Sept.	1,480	1,290
Total	23,900	22,200
Total for year if at same rate as average for January	34,400	33,400
Difference	10,500	11,200

Average for the two years - 10,900 acre feet.

*Small flood on first two days of the month. Total flow for first four days subtracted and flow at same rate as that which occurred on the fifth added.

Actually there is some water consumed by evaporation even in the coldest month, especially in an arid climate such as that of the Mojave Basin. In the method used in the foregoing calculation the water used during that month is subtracted at the same rate for the remaining eleven months. To allow for this it is believed that the average for the two years should be increased by about 2000 acre feet, giving 13,000 acre feet as the estimated consumption above Victorville Narrows.

Upper Narrows to Lower Narrows

The stream flows in a broad canyon-like valley in this section. Bottom lands support a heavy growth of trees and there is some irrigation. Springs appear along the west canyon wall but have not been measured. This

Table 2

Town of Baine by Upper Darrell, Ark
Homeownership Dwl Units in Upper Darrell

Oct.	1,140	1,150
Nov.	3,240	3,170
Dec.	2,100	1,920
Jan.	2,000	2,000
Feb.	3,200	3,100
Mar.	3,400	3,420
Apr.	2,140	1,910
May	2,020	1,960
June	1,310	1,240
July	1,240	1,210
Aug.	1,810	1,110
Sept.	1,400	1,290
Total	23,800	23,200
Data as provided for Monday	24,400	22,100
Difference	(2,600)	(1,100)

Increase for the one year = 12,000 more Dwel.

"Small Town is Fine" the Days of the World. Enjoy Life the Small Town Way Advertising and Life at Home Help to Your Wife Children Concerned on the Story Added.

Actually there is some basic concept in responding upon in the fullest sense, especially in an acid climate and in that if the Sphere Basin. In the optimal case in the scenarios we/climates the water used during that small is accounted at the same rate for the remaining storms months. To allow for this it is assumed that the average for the two years should be increased by about 200 acre feet, adding 12,200 acre feet as the estimated consumptive water withdrawal.

Other Factors to Consider

The above figure is a total consumptive value in the water; Surface lands suppers a large portion of these and there is some irrigation. Irrigation appears along the west canyon most all some are located. The

flow is from the underground water resulting from percolation from minor streams west of Mojave River probably to Sheep Creek. The increment can be estimated by the measurements made on the river flow in the dormant season when transpiration losses do not mask the inflow.

Table 25

Average of Isolated Measurements by U. S. Geological Survey at Upper and Lower Narrows, 1931–32

	Upper Narrows		Lower Narrows		
Month	Number of Measurements	Average flow Second Feet	Number of Measurements	Average flow Second Feet	Difference Second Feet
Oct.	5	30.4	5	30.8	+ 0.4
Nov.	4	31.8	4	35.5	+ 3.7
Dec.	4	36.0	4	41.3	+ 5.3
Jan.	4	38.8	4	42.0	+ 3.2
Feb.	1	42.0	1	42.0	0
May	3	38.3	3	38.7	+ 0.4
June	5	26.6	5	24.4	- 2.2
July	4	21.3	4	18.0	- 3.3
Aug.	4	22.0	4	19.8	- 2.2
Sept.	5	23.8	5	21.2	- 2.6

Records of the U. S. Geological Survey at the Upper Narrows and of the Arrowhead Corporation are shown in Table 26. When compared they show losses for all months instead of gains during part of the time.

Table 26

Comparison of Discharges at Upper and Lower Narrows except in Time of Flood
Acre Feet

	1904–05			1905–06		
Month	Upper Narrows	Lower Narrows	Difference	Upper Narrows	Lower Narrows	Difference
Oct.				2,860	2,380	- 480
Nov.				3,810	2,770	- 1,040
Dec.	3,630	2,830	- 800	4,120	2,840	- 1,280
Jan.	3,700	2,550	- 1,150			
June	2,580	1,540	- 1,040			
July	1,990	1,320	- 670			
Aug.	1,940	1,590	- 350			
Sept.	2,380	1,660	- 720			

Table 87

Comparison of Economy at Ogden and Other Western
Points in City of Ogden
2000 Base

Month	Number Employed	Index Number	Payroll	Index Number	Average Wage	Index Number
Jan.	3,840	100	$3,840	100	$1.00	100
Feb.	3,960	103	3,960	103	1.00	100
Mar.	4,080	106	4,080	106	1.00	100
Apr.	4,200	109	4,200	109	1.00	100
May	4,320	113	4,320	113	1.00	100
June	4,440	116	4,440	116	1.00	100
July	4,560	119	4,560	119	1.00	100
Aug.	4,680	122	4,680	122	1.00	100
Sept.	4,800	125	4,800	125	1.00	100
Oct.	4,920	128	4,920	128	1.00	100
Nov.	5,040	131	5,040	131	1.00	100
Dec.	5,160	134	5,160	134	1.00	100
Jan.	5,280	138	5,280	138	1.00	100
Feb.	5,400	141	5,400	141	1.00	100
Mar.	5,520	144	5,520	144	1.00	100
Apr.	5,640	147	5,640	147	1.00	100
May	5,760	150	5,760	150	1.00	100
June	5,880	153	5,880	153	1.00	100
July	6,000	156	6,000	156	1.00	100
Aug.	6,120	159	6,120	159	1.00	100
Sept.	6,240	163	6,240	163	1.00	100
Oct.	6,360	166	6,360	166	1.00	100
Nov.	6,480	169	6,480	169	1.00	100
Dec.	6,600	172	6,600	172	1.00	100

The inflow from springs is visible and in such a situation invisible inflow is also to be expected. Therefore there should be some gain in this section of the river unless losses in the dormant season exceed the gains, which is unlikely. As the series of measurements compared in Table 25 are both by the U. S. Geological Survey, the results in that table will be used. From it and based on known variation in transpiration records as determined by the U. S. Department of Agriculture*, the following is made up.

Table 27

Estimated Loss and Gain
Upper to Lower Narrows

Month	Second Feet
Oct.	0.4
Nov.	2.7
Dec.	4.0
Jan.	4.0
Feb.	2.5
Mar.	1.0
Apr.	- 1.0
May	- 1.8
June	- 2.5
July	- 2.8
Aug.	- 2.6
Sept.	- 0.5
Average	0.28

If four second feet be regarded as the gain from springs and under-seepage, the difference between that and the above average loss for the year represents transpiration and evaporation loss. The difference is 3.72 second feet or a total of 2690 acre feet for the year, to which should be added about 10 per cent as in the estimate of transpiration above Upper Narrows, giving a total of about 3000 acre feet.

* Bulletin 44, Division of Water Resources, "Water Losses under Natural Conditions from Wet Areas in Southern California", by Harry F. Blaney, Division of Irrigation, Bureau of Agricultural Engineering, U. S. Department of Agriculture.

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The Forks to Lower Narrows

Records were kept at both points for many years by the Arrowhead Corporation and the annual differences are shown in Table 28.

Table 28

Difference in Flow
Forks and Lower Narrows
Acre Feet

	Forks	Lower Narrows	Difference
1904-05	106,000*	70,300*	- 35,700
-06	135,000	103,000	- 32,000
-07	255,000	202,000	- 53,000
-08	58,600	48,800	- 9,800
-09	96,200	90,700	- 5,500
-10	131,000	138,000	- 43,000
-11	147,000	130,000	- 17,000
-12	45,200	47,300	2,100
-13	25,900	31,300	5,400
-14	165,000	160,000	- 5,000
-15	135,000	145,000	10,000
Average loss			- 16,700

* October and November estimated.

The average annual loss between the Forks and Lower Narrows is estimated to be 18,000 acre feet by combining the estimates of loss above Upper Narrows and loss between Upper and Lower Narrows previously given. By Table 28 the average difference is 16,700 acre feet, and to this should be added the inflow from springs which is taken at 4 second feet, giving about 20,000 acre feet loss. This amount is too large by the annual increase in storage above the Narrows during the wet period covered by the measurements. Correction for change in storage underground cannot be made because of lack of data. For the purpose of this report the loss is taken at 18,000 acre feet with 14,000 acre feet above Upper Narrows and 4,000 acre feet between Upper and Lower Narrows.

Table 88

Distribution by Zone
Florida and Eastern Tennessee
Early Plan

Zone	Population	Distribution
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Lower Narrows to Barstow

A surface stream existed for 10 miles below Lower Narrows at the time of the survey in October, 1929, and evidences of high water table are found for another 10 miles or to a point about two miles below Hodge on the Santa Fe railroad. For the next five miles trees are very scattered or non-existent but in the six miles below gradually grow more luxuriant.

Point of Rocks is about a mile below Helendale on the Santa Fe and about four miles below the end of the surface stream mentioned.

The difference between discharges at gaging stations maintained by the Arrowhead Corporation at Lower Narrows and Point of Rocks is shown in Table 29.

Table 29

Difference in Flow
Lower Narrows and Point of Rocks
Acre Feet

	Lower Narrows	Point of Rocks	Difference
1908-09	90,700	80,100*	- 10,600
09-10	138,000	111,000	- 27,000
10-11	130,000	113,000**	- 17,000
		Average	- 18,200

* Small flows in October and November estimated.
**Small flows in July, August and September estimated.

The difference between discharges at gaging stations maintained by the U. S. Geological Survey at Upper Narrows (Victorville) and Hodge is shown in Table 30.

Table 30

Difference in Flow
Upper Narrows and Hodge
Acre Feet

	Upper Narrows	Hodge	Difference
1930-31	21,700*	2,320	- 19,400
1931-32	84,200	59,500	- 24,700

* Small flows in October and November estimated.

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[illegible] as of the morning [illegible], 1999, with [illegible] of high [illegible]
was found for [illegible] [illegible] [illegible] the [illegible] [illegible] [illegible]
a [illegible] [illegible]. By the [illegible] [illegible] [illegible] [illegible]
or [illegible] [illegible] [illegible] [illegible] [illegible] [illegible].

Users of [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
and about [illegible] [illegible] [illegible] [illegible] [illegible] [illegible].

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible].

Table 29

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[illegible]
[illegible]

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

[illegible]

Table 30

[illegible]
[illegible]
[illegible]

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

The greater loss in 1931-32 is believed to be mostly because of the greater percolation opportunity due to the larger amount of water. The percolation from floods of February, March and April in that year was about 10,000 acre feet.

Inflow from West Side below Lower Narrows. The measurements made each week by the U. S. Geological Survey during 1931-32, except at flood time, indicate that in the fall after irrigation ceased and transpiration losses decreased, the surface stream gradually pushed farther downstream. The average of the measurements for each month beginning October, 1932, until February, when a flood occurred, is shown in Table 31.

Table 31

Stream Flow from Lower Narrows to Hodge
Average of Measurements
Second Feet

	Number of Measurements	Lower Narrows	Bryman	Helendale	Wild	Hodge
Oct.	5	31	25	*	0	0
Nov.	4	36	32	30	*	0
Dec.	4	41	42	37	29	*
Jan.	4	42	47	45	44	22
Feb.	1	42	48	44	39	31

* Flowed only part of month.

By the end of January, apparently the sands beneath the river bed had practically filled down as far as Wild. Transpiration and evaporation losses would be at a minimum in that month and the measurements indicate a gain of five second feet from Lower Narrows to Bryman with no further gain below. This is believed to be from the underground water on the west side. There is no reason found so far that some inflow would not occur between Bryman and Helendale but the measurements do not show it. Below Helendale the river turns to the northeast and its direction approximates the direction in which the water table is sloping so that

[illegible]

[illegible] June 15 [illegible] [illegible] [illegible]

inflow would not be so probable. The annual increment from the west below Lower Narrows is estimated to be 4000 acre feet. That above between Upper and Lower Narrows was estimated to be 3000. In round figures this is ten second feet. In addition there should be underflow from both sides for a distance above Upper Narrows but no reliable estimate of it can be made with present data. It is neglected in calculations of water supply.

Incidentally the measurements indicate that about 5000 acre feet will fill the voids in the bottom lands from Lower Narrows to Hodge, a distance of 17 miles even after a series of dry years.

The estimated long time average runoff of the mountains between Mojave River and Sheep Creek is 5500 acre feet. That of Sheep Creek is also 5500 acre feet. In years of large runoff some of this presumably reaches the sink known as Dry Lake and is evaporated. Some percentage of Sheep Creek water difficult to estimate moves underground into the Mojave River Basin. If it is 10 per cent, the total tributary to Mojave River Basin from the west side is 6000 acre feet. This is to some extent drawn upon for irrigation and there would be some lost by evaporation before getting underground. Some which has reached the water table may reach Mojave River above Victorville. Estimated in this way the annual average increment tributary to Mojave River is less than the 7000 acre feet estimated as heretofore described and accepted as the basis for calculations of water supply herein.

For the area between Sheep Creek and Mojave River the average annual runoff during the 29 year period on which water supply estimates are based is 4400 acre feet. For the same period 10 per cent of estimated annual average runoff of Sheep Creek is 400 acre feet giving a total of 4800 acre feet (minus the losses above noted) as the average annual increment to Mojave River for that period. This estimate should also be compared with the 7000 acre feet estimate.

These estimates indicate that underground water in the territory from Mojave River west inclusive of that supplied by Sheep Creek is very small compared to the available land.

Loss Hodge to Barstow

The loss between gaging stations maintained at Hodge and at Barstow by the U. S. Geological Survey is shown in Table 32.

Table 32

Loss of Water
Hodge to Barstow
Acre Feet

	Hodge	Barstow	Loss
1930-31	2,320	0	2,320
1931-32	59,500	40,300	19,200

The loss is almost all percolation into the streambed. During the investigation the water table at the deepest point about nine miles above Barstow was 25 feet below the surface. Actual loss in the year is greater than that shown in the table for 1930-31 and less for 1931-32 as storage in the basin decreased in 1930-31 and increased in 1931-32.

Barstow to Afton

At Afton there is always a small flow caused by the overflow from the basin above it and below Forks-of-the-Road Fault. In only one year of the investigation did a surface stream force its way from Barstow to Afton. During that year the stream flowed at Barstow from February 9 to May 10, inclusive, giving a total discharge of 40,300 acre feet. The flood water ceased to flow at Afton about March 8, and the discharge of flood water during that period after deducting normal rising water is estimated at 7000 acre feet. Of this, about 1000 acre feet was evidently from a local storm as the discharge at Afton rose from 16 second feet on February 16 to 274 second feet on February 18 with a rise of only 68 second feet at

Table 23

Some of Value
Change in Income
1920-1930

1920-30	[illegible]	[illegible]	[illegible]
1920-30	[illegible]	[illegible]	[illegible]

Barstow. When corrected for this, the flood from the mountains reaching Afton becomes about 6000 acre feet, indicating a loss mostly by percolation of 34,300 acre feet in that section of the stream.

Forks to Afton

The total discharge from the mountains plus increments below minus flow at Afton gives the loss each year. As the only record of flood flow past Afton is in 1931-32, that year's record is the only one indicative of the total loss in the stream system. Increments other than springs from Upper Narrows to Bryman are probably negligible.

Table 33

Loss of Water
Mountains to Afton
1931-32
Acre Feet

Inflow		
Discharge at Forks	99,300	
Inflow from springs	7,000	
Flood originating below mountains	1,000	107,300
Discharge at Afton		7,900
Transpired, evaporated or stored underground		99,400

Using round figures it may be said that 100,000 acre feet was lost by evaporation and transpiration or stored underground in 1931-32. This is the same as the discharge in that year from the mountain headwaters.

The water stored was not lost during that year although it may be lost in subsequent years. The loss or use is the water evaporated and transpired by the native vegetation in areas of high water table, by the irrigated land and by the towns and railroads. The water table was slightly higher in the fall of 1932 than in the fall of 1931 and thus permanent or over year storage took place. If several wet seasons occurred in succession the water table would gradually rise above the level of fall, 1932, to a point where rising water outflows would balance the input. The

Town of Agora
Annotated Budget
1980-81
Line Item

Police

Salaries 1,500
Police Cars 1,000
Police Uniforms ..... 1,500 [illegible]

Fire Department 7,500

Transfers, contingency & other expenditures 11,000

Debt service figures in this section will not balance with the total debt service figures shown in the Debt Service section because the latter includes the debt service payments for the Agora Water Authority, which is a separate entity.

The Police Department has a total staff of [illegible] and operates [illegible] vehicles. The [illegible] are [illegible] [illegible] [illegible]

water table slopes away from the river to the north below Hodge and to the northeast below Daggett and it is conceivable that the additional rising water might appear not only in the river but at points north of it, but no record of wet spots of magnitude to the north is found except Harper Lake to which underflow from Mojave River must be small, as the underground outlet to the lake is very constricted. Harper Lake was dry during the period of investigation. Below Forks-of-the-Road Fault an ancient lake existed. Its exact boundary is not known but its western end is thought to have extended almost to the fault and the lake bed formation would militate against rapid underground flow from the river.

Because the water table slopes away from the river and because there is such a large amount of native vegetation along the channel, both of which would lower the water table at the river during the growing season when the stream is dry, there would always be space after the growing season into which the floods could percolate. It is believed, however, if the discharge of 1931-32 had occurred after a series of wet years instead of a series of dry years, that because of the higher water table the apparent loss above Afton would have been less.

Beneficial Consumptive Use of Water

The irrigated areas shown on Plates 5-A, B, and C in pocket are only those drawing on water from the river. They are taken from aerial photographs which included only those areas influenced by the river. There are additional irrigated lands not shown and also not dependent on the river. The irrigated area around Hesperia (not shown) is supplied from East Fork diverting above the gaging station so that it is not drawing on the measured supply at the Forks. The irrigated area at Adelanto (not shown) is supplied in large part from the river.

A ground survey was not made so that the crop on each acre is not known. It is believed that about 80 per cent of the cropped area is in alfalfa with the remainder in vegetables, hoed crops and orchard. The consumptive use of alfalfa is taken at 3.0 feet in depth per acre per year and of other crops at 2.0 feet. This would make the average 2.8 acre feet per year and that value is used in estimates. The total consumptive use of the 6019 acres irrigated in 1929 would be 16,900 acre feet. As there has been some abandonment since then the total for the present is taken at 15,400 acre feet.

The consumptive use for the towns, railroads and industries is roughly estimated at 1100 acre feet per annum, giving a total of 16,500 acre feet.

Disposal of Water

In fall, 1932, the water table near the stream was higher in general than in fall, 1931. That of fall, 1931, was lower than that of fall, 1930. Information as to the exact amount of change is not of the best but sufficient to make rough calculations of the volume of storage change if values are assigned to the specific yields of the aquifers in which the change of elevation took place. Values as shown in Table 36 were assigned to specific yields in the different classes of alluvium and calculations made.

Water is disposed of in the area under study by consumptive use and evaporation, by storage underground and by outflow past Afton. Consumptive use may be beneficial, i.e., for irrigation, domestic, and industrial uses, or non-beneficial, i.e., for native vegetation.

It was found that no consistent results could be achieved when attempts to balance input against draft and storage change in the various

A typical monthly rate [illegible] is about $1.00 per month. It is [illegible] Each [illegible] is charged $1.00 per month. [illegible] Each [illegible] is charged $1.00 per month. [illegible] Each [illegible] is charged $1.00 per month.

smaller basins into which the valley could be subdivided. For instance, if the 14,000 acre feet estimated consumption above Victorville be taken as correct, only 1000 acre feet can be assigned to storage increase from fall, 1931, to fall, 1932, if the equation is to balance. The storage increase between Hodge and Barstow between fall, 1931, and fall, 1932, is estimated at 11,000 acre feet. The major portion of this is in Hinkley Valley for which the estimate is believed more reliable than that for other areas. As this is more than 50 per cent of the total estimated storage in that year above Barstow, if the whole area above Barstow is taken, errors in other basins would not affect the overall estimate for the whole area in the same degree as the errors affect the estimates for the separate smaller basins. Therefore, in order to give an idea of the disposal of water probably less erroneous in its evaluations, the valley is divided into two sections, Forks to Barstow and Barstow to Afton. Tentative estimates of the methods of disposal are shown in Table 34. After all data were studied it was still necessary to assign arbitrary values to the storage change plus non-beneficial consumption and considerably different values may be found if investigation continues and more information is gathered.

Table 34

Disposal of Water in Mojave Basin below the Mountains, 1931-32
Acre Feet

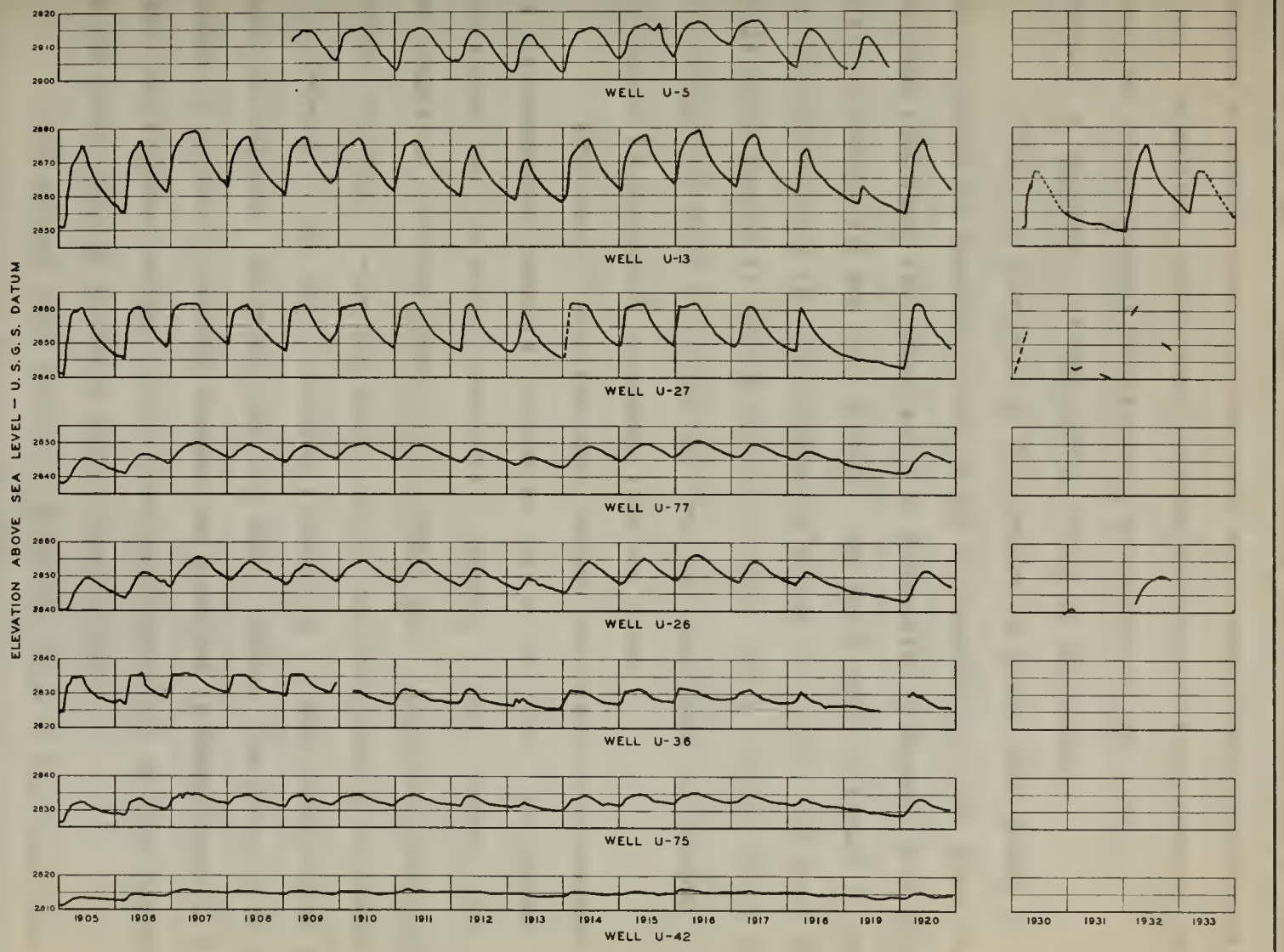
	Forks to Barstow	Barstow inclusive to Afton	Forks to Afton
Inflow			
River	99,200	40,300	99,200
Springs, etc.	7,000	1,000	8,000
	106,200	41,300	107,200
Disposal			
Surface outflow	40,300	7,900	7,900
Stored underground	26,000	16,000	42,000
Beneficial consumption			
Irrigation	12,700	2,700	15,400
Domestic and Industrial	400	700	1,100
Non-beneficial consumption	26,800	14,000	40,800
	106,200	41,300	107,200

Note: Figures for non-beneficial consumptive use in the above are those which added to other amounts under "Disposal" will balance "Inflow" and "Disposal".

[illegible]

[illegible]

[illegible]



WATER LEVEL FLUCTUATIONS AT TEST WELLS

OF

LAKE ARROWHEAD CORPORATION

Water Table

Contours of the water table as of fall, 1930, are shown on Plates 5-A, B, and C in pocket for the area in which elevations of ground surface or measuring point at the wells were secured during the investigation. In addition, water table contours from the mountains north to Dry Lake and extending about 20 miles west of Victorville are shown in Bulletin 5, Department of Engineering, State of California.

Under the mesa west of Victorville the water table slopes to the northeast and apparently there might be underflow into the river from the west from about four miles south of Victorville to Bryman, nine miles north of Victorville and even further. The water table continues to slope to the northeast but the river gradually swings to the east and about five miles above Barstow is flowing almost due east. For a distance above this the underground water is moving away from the river under the Hinkley Valley and is maintained by seepage from the river.

From about five miles above Barstow the direction of movement of the underground water is the same as that of the river. At Barstow the stream turns to the southeast and at Daggett to the northeast, but the underflow continues practically straight east. Apparently water goes through the Forks-of-the-Road Fault, and on the south side of the valley from Newberry to Dry Lake the slope is almost in the same direction as the Santa Fe Railroad. Below and near the fault, however, the slope is at right angles to the fault, probably because the underflow is dammed back by the fault but trickles through it into more porous material, as seems probable by the steep slope of the water table below the fault.

For several miles below the fault the slope of the water table is at right angles to the fault but gradually the slope swings to the north and has a much more northerly direction than the stream.

On the east side of the stream below where it enters the plains, and on the south in the vicinity of Barstow where the stream is flowing easterly, the water table slopes toward it. However, the watershed is small and the contribution is negligible below Victorville although possibly of sensible proportions for a short distance above.

Area of Influence of Mojave River

The approximate estimated boundary is shown on Key Map. The area included totals 333 square miles. The boundary is deduced from water table contours, geology and topography. Presumably the constricted underground channels north of Hinkley Valley would restrict movement of water toward Harper Lake from Hinkley Valley so that even if greater pumping draft were made north of Hinkley Valley the amount of water passing out of it to the north would be small. The aquifers from the river to Hinkley Valley are apparently very porous.

The formation conveying water from the river into and under the Newberry-Dry Lake area would not, it is believed, transmit water from the stream as freely as is possible to Hinkley Valley, and as the water reaching the Newberry-Dry Lake area from the river is that which has percolated to the south side below Barstow and above Forks-of-the-Road Fault and must pass through the fault to reach the area, it is believed that its flow would be so impeded by the fault as to cause serious question whether a large amount could enter the area from that direction even were the water table lowered greatly in the area. Below the fault the lake bed formations which begin at some not definitely located point would also impede movement of water into the area from the river although it might freely enter below the fault to the point where the lake bed formation begins.

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The movement of water from the river to the north side of the river in its lower reaches could not occur except in very small amount, above Daggett, as mountains approach the river too closely. Movement outward to the north below Daggett would also be restricted because of proximity of the mountains on the north side. As on the south side, water leaving the river above the fault could percolate through the fault and on, parallel to the river. As with the south side, movement from the river would be impeded to the north by the lake bed formations below the fault.

Pressure Areas

The Mojave River Basin has three known pressure areas and a fourth, covering considerable territory above Afton, which from the nature of its deposits should have pressure characteristics although there is no available hydrographic data to substantiate this hypothesis. The areas are as follows:

(1) An area of indeterminate size located in the vicinity of Victorville, roughly limited in a north-south direction by the boundaries of the present area of rising water. The limits in an east-west direction from the river are not known, though it is conjectured that it extends two or three miles at least to the west of the river and a shorter distance to the east. Within this area the deep wells show the greatest pressure. One well located in the SE¼ of Section 16, T 5 N, R 4 W, S.B.B.&M., had a rise in water level of about 20 feet in strata below 350 feet depth while drilling several years ago. Wells of the Rancho Verde located south of Victorville had pressures in their lower strata equivalent to 5 to 25 feet of head greater than in shallow strata. A well located in the NE¼ of Section 35, T 5 N, R 4 W, S.B.B.&M., drilled prior to 1917, with a total depth of 985 feet, reported an artesian head of 45 feet above the ground while drilling at about 400 feet.

(2) A pressure area in the vicinity of Harper Lake, which no doubt has its area confined approximately to the present surficial depression.

(3) An area that parallels and abuts the Forks-of-the-Road Fault on its eastern boundary. Its areal extent is approximated by the extent of the alkali area which forms a belt about one and a half miles wide above the fault.

(4) The high ratio of sedimentary clay (about 50 per cent) contained in the greater part of the area east of Forks-of-the-Road Fault suggests the presence of an extensive pressure area. Hydrographic data indicates that a belt extending a few miles to the east of the fault is excluded from the postulated pressure area, however.

Fluctuations of Water Table

Plate 3 shows graphs of certain wells at which elevation of water table was measured frequently by Arrowhead Corporation from 1905 to 1920 inclusive. Measurements were also made at such of these wells as could be found by the Division of Water Resources and U. S. Geological Survey and graphs of these are shown on Plate 3 also.

Location of the wells is shown on Plates 5-A to C. As they are all near the river large seasonal fluctuations in water table were found, due to percolation from the river when in flood and rapid equalization of the water table as the water near the river moved laterally away from it or drained out of the basin. These graphs indicate that the first two years of heavy runoff in the wet cycle which began in 1905 filled the basins as there was practically no annual rise thereafter.

Comparison of water table elevation during the investigation of the Division of Water Resources and the elevation for fall, 1919, as given in Water Supply Paper No. 578 is rather difficult because of paucity of

records. What there are indicate in general a recession as could be expected since the runoff has been subnormal. In the Upper or Victor Basin the maximum recession between fall, 1919, and fall of any of the years during the present investigation in which measurement was taken has been 4.8 feet. This was fairly near the lower end of the basin and it probably was further south but no comparative records are available.

In Hinkley valley the general recession in the period above described is thought to be about five feet. Below Barstow the average recession was greatest in the vicinity of Daggett where well L-5 shows 18.9 feet drop, L-9 shows 17.7 feet drop and two others about 8.0 feet. Further east the recession has been about five feet. Below the fault there has been little change.

CHAPTER VII

DEVELOPMENT

This investigation has not gone into plans for further development and it will not be discussed except to point out its effect on present conditions.

The following tables give (1) the estimated average annual water supply available for different periods, (2) the reservoir capacity required for annual drafts of various amounts whether by beneficial consumptive use or by evaporation, transpiration or other losses, (3) the known surface reservoir capacity available, and (4) the approximate underground reservoir capacity to various depths below the surface.

Table 35

Estimated Average Annual Water Available
in Mojave Valley for Different Periods
Acre Feet

Period	Years	Mountain Discharge	Inflow from Springs	Total
1883–84 to 1894–95	12	219,000	7,000	226,000
1895–96 to 1904–05	10	42,000	7,000	49,000
1905–06 to 1921–22	17	122,000	7,000	129,000
1922–23 to 1933–34	12	46,000	7,000	53,000
1905–06 to 1933–34	29	90,000	7,000	97,000

[illegible]

Table 36

Storage Capacity Necessary for Various Safe Annual Yields Including Evaporatio., Transpiration and Rising Water Passing out of basin, for the 29 year period 1905-06 to 1933-34
Acre Feet

Yield			Necessary Reservoir Capacity	Ratio Reservoir Capacity to Yield
From Mountains	From Springs	Total		
13,000	7,000	20,000	13,000	.6
23,000	7,000	30,000	33,000	1.1
33,000	7,000	40,000	61,000	1.5
43,000	7,000	50,000	96,000	1.9
53,000	7,000	60,000	152,000	2.5
63,000	7,000	70,000	239,000	3.4
73,000	7,000	80,000	356,000	4.5
83,000	7,000	90,000	483,000	5.4
90,000	7,000	97,000	579,000	6.0

Note: "Necessary Reservoir Capacity" in the foregoing is the result of calculations based on the entire supply and not on the supply remaining after taking care of present uses. A part of the "necessary reservoir capacity" now exists as a result of present draft on the underground basins and is being utilized to support the draft consisting of both beneficial and non-beneficial consumptive use and rising water outflow past Afton. If the present use is 57,500 acre feet as estimated, this draft plus rising water at Afton is using about 140,000 acre feet of underground storage capacity. To supply 30,000 acre feet additional draft would require about 330,000 acre feet of additional storage.

Table 37

Surveyed Capacity of Known Reservoir Sites in Mountain Headwaters and Estimated Average Annual Discharges

Site	Surveyed Capacity Acre Feet	Average annual discharge at site Acre Feet	
		1905-06 to 1933-34	1895-96 to 1904-05
Victor	350,000	90,300	42,000
Forks	113,500	57,000*	25,000*
		33,300**	17,000**
West Fork No. 2) alternates	34,800	24,300	12,400
West Fork No. 3)	30,000	23,200	11,800
Grass Valley	7,600	2,600	1,160
Deep Creek	2,000	15,700	7,200
Holcomb Creek	1,000	8,000	3,700
Arrowhead - partially constructed	60,100	8,400	3,840

* East Fork
** West Fork

Table 38

Estimated Capacity of Underground Basins
Acre Feet

District	Feet below ground surface 50	100	150	200
Forks to Victorville	90,000	220,000	410,000	670,000
Victorville to Hodge	160,000	320,000	480,000	640,000
Hodge to Barstow, including Hinkley Valley	290,000	590,000	900,000	1,200,000
Total above Barstow	540,000	1,130,000	1,790,000	2,510,000
Barstow to Daggett	50,000	110,000	160,000	220,000
Daggett to Fault	150,000	360,000	560,000	770,000
Total below Barstow	200,000	470,000	720,000	990,000

Note: Voids on which this is based are 18 per cent in river wash and 8 per cent in old alluvium above Victorville, 15 per cent Victorville to Forks-of-the-Road Fault below Barstow and 11 per cent below the Fault.

Referring to Table 37, the average annual discharge for the average and minimum periods at the sites are shown. The average discharges for the same periods are shown for West Fork and East Fork opposite the capacity of Forks Site. A part of East Fork water could be diverted to the West Fork Reservoir. A study of the matter is necessary to determine whether the water available would justify the capacities to which surveys have been made at the various reservoir sites or whether larger capacities are justified if found feasible. No exploration work has been done at the dam sites of Reservoirs Nos. 2 and 3 and more work is necessary at the Forks Reservoir and Victor Reservoir dam sites.

There is no existing problem in Mohave River Basin of failing underground water supplies. On the contrary, after a period of many years of subnormal runoff the water table has fallen only slightly and native vegetation due to high water table is growing luxuriantly on many thousands of acres. Probably more than twice as much water is being consumed

Statistical Summary of Differentiated Deaths
June 1941

Districts				
Bronx or Throgs Neck	[illegible]	[illegible]	[illegible]	[illegible]
Flushing or College Point	[illegible]	[illegible]	[illegible]	[illegible]
Flushing Meadow, including Flushing Manor	[illegible]	[illegible]	[illegible]	[illegible]
Total Known Deaths	[illegible]	[illegible]	[illegible]	[illegible]
Deaths in Hospital	[illegible]	[illegible]	[illegible]	[illegible]
Deaths at Home	[illegible]	[illegible]	[illegible]	[illegible]
Total Male Deaths	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]
[illegible]
[illegible]

thereby as by all the beneficial uses in the valley. There were 6000 acres irrigated in 1929 by water supplied from the river. Many thousand additional acres above Victorville, between Victorville and Barstow, and in Hinkley Valley are underlain by water supplied from the river. The water table is close to the surface under these areas and good wells are readily drilled.

The obvious method of development would be by individual wells in these areas. It is a method which has been duplicated in many valleys in California. The results of such development would be:

1. A drop in the water table.

2. A decrease in the area of native vegetation, because the water table would not be high enough to support it, thus setting water free for beneficial use.

3. Greater opportunity for floods to percolate into the streambed because of lowered water table and thus a decrease in the waste of floods past Afton. With the physical conditions along the Mojave and the very porous material in the streambeds, if the water table were lowered sufficiently from the Forks to Barstow and spreading done, the result might be practically complete salvage of flood waste.

4. If sufficient area either overlying the river underflow or outside of this area were irrigated by pumping, overdraft might result with ultimate necessary decrease to the draft which could be sustained.

An apparently obvious method by which the present use of water by native vegetation in the river bottom could be changed to beneficial use, would be to cut the cottonwoods, etc., in the bottom lands and substitute cultivated crops, just as already has been done in part. If the estimates of present consumptive use are near the actual facts and the native vegetation is using as much or more water per acre than is used by cultivated crops, this would not upset the regimen of the stream. A study of the situation discloses that there are 7800 acres along the river (Forks to Cady Mountain) on which native vegetation is growing. Of this

[illegible]

[illegible]

[illegible]

there are 2300 acres above Barstow and 1400 acres below Barstow of Class 1, 2 and 3 soils (41 per cent Class 3 above Barstow and 72 per cent Class 3 below) and the remainder consists of Class 4, 5 and 6 soils. Class 5 and 6 soils are largely river wash and sand and unsuited to cropping while in Chapter III Class 4 is rated as poor soil. Some of the Class 2 and 3 soils are slightly alkaline.

Thus the probable limit which might be gained in this way would not be more than 3700 acres. It is doubtful whether even this would be feasible without flood control works to regulate the floods and confine the channel. The maps in rear pocket show lines labelled "Old Flood Lines" and "Recent Flood Lines". The recent marks indicate that the floods which caused them practically covered the bottom lands. A confined channel would militate against percolation and if large development were attempted surface reservoir capacity might be necessary.

The beneficial consumptive use in Mojave Basin Valley estimated in Chapter VI is 16,500 acre feet. Whatever the correct figure, it is small because of the few acres irrigated and all of the remainder of the 97,000 acre feet average annual water supply serves no useful purpose. It is partly transpired from the water loving vegetation along the river and evaporated from the water surfaces and wet sand in the valley, or is lost past Afton during floods. All of the 16,500 acre feet except the diversion of surface flow from the mountains during the spring and early summer is a draft on the stream regulated by percolation into the underground alluvial basins, whence it either discharges as rising water and is diverted or whence it is drawn by pumps.

The results of development of additional acreage outlined earlier in this chapter would, if the development were large, bring about a considerable change in the regimen of the river. If a greater draft were made on the Victor Basin the water table in dry years would be lowered, it would

intercept the streambed farther downstream, rising water would decrease, the irrigated area now watered by gravity canals would be forced to pump to secure a supply in part at least, the surface stream which now quickly fills the sands below Lower Narrows and Bryman would be reduced, the water table below Hodge would be lowered, rising water farther downstream would decrease and water table would be lowered farther in reaches between rising water all along the stream to Afton. The same effect on all downstream points would be felt if additional draft were made anywhere along the river. The lowering would not be permanent unless the draft increased to a point where it was greater than the recharge, but the water table would be lower in cycles of low runoff than it now is and would be raised only by the percolation from the years of heavy flood to approximately the same level as would have been reached if no additional draft had occurred.

The same condition would result if large pumping operations in the various basins were instituted to secure water for exportation to areas outside Mojave River influence. In this case the legal situation might offer difficulties. There exist riparian water rights possessed by all the lands along the stream, and underground water rights possessed by all lands overlying the water table within the area receiving all or part of its underground supply from the river. The area above Afton and below the mountain toe receiving water from Mojave River is estimated to be over 200,000 acres although as heretofore stated the amount of water naturally tributary to a large part is believed to be small.

The estimated average annual outflow past Afton over the 29 year period is almost 40,000 acre feet as shown in Table 3. This estimate

is extremely tentative but for the purpose of this discussion is accepted. This waste is very erratic in occurrence because the consumptive use is a fairly constant annual draft on the supply. Although no measurements are available it is entirely improbable that the floods from the mountains were sufficient to pass Afton in 1927-28 and 1928-29. The record for 1929-30, 1930-31 and 1931-32 shows that in the first two of these years no floods passed the station and only about 6000 acre feet in 1931-32 from the floods originating above the Forks. Again in 1932-33 and 1933-34 the discharge was so small that no flood flows could have passed Afton. The total for the seven years is 6000 acre feet. Study of discharge records and estimates indicate that in the 29 year period beginning 1905-06 there were probably 16 years in which no flood discharge past Afton occurred. in the 18 year period since and including 1916-17, there have been 13 years in which there was probably no flood discharge past Afton and only one year, 1921-22, in which the flood discharge could have been large.

Flood waste must have occurred in large quantities in only eight of the 29 years, which would mean, if the average annual is considered to be 40,000 acre feet, that in those years an average of 120,000 to 140,000 acre feet discharged past Afton. From this it is evident that conservation of part of this waste by surface reservoirs while present conditions in the valley are preserved would entail large reservoir capacity and holdover for twelve to eighteen years (depending on the draft it was proposed to satisfy) to provide for the period up to and including 1934. Evaporation losses would be large. If rainfall continues to be deficient for the next years in the future the period of holdover would be longer and the safe draft less.

Spreading in Valley

Study has not been made of the additional percolation which would occur with the lowered water table, or whether spreading works to make the stream cover a larger area would be desirable. Neither has study been made of the desirability of some combination of surface reservoir, pumping and spreading works.

Summary

Any large development of Mojave Basin for irrigation would include creating greater underground capacity by lowering the water table in the ground water basins. A combination of surface reservoir, spreading works and pumping operations might be desirable but additional pumping alone would make a considerable development and spreading works would be a help.

The physical situation encountered in creating the greatest possible use would be complicated even if no development now existed, but when the necessities of existing city and irrigation developments are considered and also the at present unused legal rights to water involved, the situation is extremely complex.

APPENDIX 1

TABULATIONS OF DATA

In this appendix the following tabulations of data are presented:

Table 39 - Monthly and Seasonal Precipitation at Stations.

Table 40 - Monthly and Seasonal Discharge at Stations.

Table 41 - Regimen of Flow of East and West Forks.

Table 42 - Miscellaneous Discharge Measurements from F. C. Finkle.

Table 43 - Records of Water Levels at Wells.

Table 44 - Areas of Natural Vegetation on Different Soil Classifications.

Table 39

Monthly and Seasonal Precipitation at Stations

All of the records presented in this table are from the Arrowhead Company excepting that for Big Bear Lake Dam which is from the Bear Valley Mutual Water Company, and that for Squirrel Inn after November 1909 which is from the United States Weather Bureau.

The station at Big Bear Lake Dam is in the headwaters of the Santa Ana River just south of the Mojave River headwaters. All other stations are in the Mojave River drainage area.

Table 39

ASH MEADOWS - N. W. Cor. Sec. 1, T. 2 N., R. 3 W., S. B. M. Elev. 4650 feet approx.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1904-05	0.53	0.00	1.11	5.35	9.30	7.90	0.75	3.13	0.00	0.00	0.00	.12	28.19
1905-06	.00	4.45	.46	1.99	3.12	17.52	1.28	2.22	.00	.00	.00	.13	31.17
1906-07	.00	1.77	12.12	8.93	3.04	12.50	.35	.00	.25	.00	.00	.00	38.96
1907-08	4.56	.26	.38	8.98	5.35	1.40	1.14	.72	.00	.14	.01	.63	23.59
1908-09	1.51	.24	2.45	0.09	6.51	2.45	.17	.00	.12	.46	.93	.00	24.83
1909-10	.08	6.83	5.69	17.38	.33	1.75	.31	.00	.00	.00	.00	T	28.86
1910-11	.76	.42	.07	6.19	3.72	5.62	.00	.00	.00	.00	.00	.00	16.80
1911-12	2.24	.25	1.57	.00	.00	10.83	2.35	.18	.00	.00	.00	.00	17.42
1912-13	1.38	.31	.08	2.98	5.26	1.19	.64	.45	.00	.00	1.15	.00	13.44
1913-14	.00	3.39	.55	12.05	8.80	.85	.00	.00	.00	.00	.00	.00	25.64
1914-15	.78	.22	5.19	.33	5.41	.54	.55	1.13	--	--	--	--	--
Means (a)	1.08	1.65	2.69	6.42	4.63	5.69	.69	.71	.04	.06	.29	.09	24.89

(a) Monthly average for period of record. Seasonal average for 10 years.

Table 39, - continued

BIG BEAR LAKE DAM - Sec. 22, T. 2 N., R. 1 W., S. B. M. 100 feet above the south end of Big Bear Lake Dam. Elevation 6800 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1883-84	.00	1.50	6.00	6.30	37.50	25.14	12.98	3.12	.35	.00	1.04	.00	93.93
1884-85	.00	1.36	9.09	1.40	.10	1.03	7.95	.45	.00	.00	1.86	.00	23.24
1885-86	.25	15.75	9.90	19.70	3.40	8.80	5.65	.00	.00	.60	1.70	.00	65.75
1886-87	.00	2.60	1.40	.00	11.90	.50	5.40	.50	.00	.40	.50	1.10	24.30
1887-88	4.40	2.40	5.90	17.90	.90	21.40	4.70	.10	.00	.10	2.20	.58	60.58
1888-89	.05	11.05	8.90	1.75	4.80	15.40	1.10	4.15	.00	.00	1.15	2.05	50.40
1889-90	14.20	4.50	37.80	16.80	6.40	7.50	.10	.70	.00	.20	1.90	3.00	93.10
1890-91	.80	1.50	12.30	.00	41.90	2.70	5.20	6.40	.60	.50	3.20	.50	75.60
1891-92	.00	.30	4.00	1.93	6.00	13.33	.75	8.27	1.50	.00	.19	.00	36.27
1892-93	.15	6.11	9.04	10.31	2.15	14.75	.53	.18	.00	.31	.30	.91	44.74
1893-94	1.28	3.82	4.80	*6.35	2.23	3.15	.58	.95	.18	.52	.98	.68	*25.52
1894-95	.50	.00	21.67	16.94	1.43	6.31	.76	.41	.09	.00	.77	.05	48.93
1895-96	.00	2.45	.73	2.26	.61	2.96	.98	.48	.00	.15	.41	.10	11.13
1896-97	1.90	1.60	2.00	8.55	10.93	7.46	.05	.10	.00	.00	.41	.63	33.63
1897-98	4.76	.57	1.56	4.44	1.23	2.87	.35	3.37	.03	.00	.99	.00	20.17
1898-99	.00	.35	.56	3.96	2.70	3.28	1.19	.30	.60	.00	.00	.00	12.94
1899-00	4.05	2.74	1.70	1.52	.62	2.51	3.85	3.49	.00	.65	.00	.85	21.98
1900-01	.23	9.97	.00	8.48	10.19	.29	.71	.14	.00	.31	2.61	.00	32.93
1901-02	2.68	.59	.30	4.92	3.81	8.93	1.20	.00	.33	.05	.60	.18	23.59
1902-03	.00	3.84	3.30	4.77	6.51	11.95	8.59	.51	.12	.00	.00	2.51	42.10
1903-04	.49	.00	.00	1.30	6.03	12.19	2.10	.53	.00	.47	1.84	.00	24.95
1904-05	1.08	.00	1.46	7.60	15.44	9.42	1.40	5.65	.00	.00	.00	1.00	43.05
1905-06	.00	4.60	1.02	5.65	3.31	26.14	2.83	3.70	.00	.10	1.65	.40	49.40
1906-07	.00	3.70	11.15	12.65	4.50	13.65	.00	.25	.33	.00	.55	.00	46.78
1907-08	5.45	.25	.90	10.10	6.10	3.40	1.00	1.25	.00	.62	1.10	1.55	31.72

(Cont'd.)

Table 39, continued

Big Bear Lake Dam (Continued).

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1908-09	2.40	1.10	3.05	15.20	12.30	4.80	.00	.00	0.42	0.80	4.30	.00	44.37
1909-10	.25	5.75	19.00	10.47	.57	2.63	.52	.00	.00	.73	.00	.00	39.92
1910-11	.95	1.25	1.16	23.75	8.28	11.68	.34	1.03	.10	.65	.00	3.00	52.19
1911-12	1.10	.36	1.90	.58	.00	14.95	2.50	.72	.00	.36	.00	.00	22.47
1912-13	2.34	.44	.00	4.87	9.93	3.01	.58	.35	1.63	.58	2.79	.00	26.52
1913-14	.00	7.05	2.43	23.58	10.83	1.47	4.67	.21	.00	.25	.20	.45	51.14
1914-15	.45	.35	8.28	9.84	21.06	5.59	4.06	3.27	.00	.38	.47	.22	53.97
1915-16	.00	.98	8.29	37.59	3.88	7.55	.73	.58	.00	.23	.55	1.66	62.04
1916-17	5.07	.42	7.38	4.69	5.86	2.60	3.74	.00	.00	.93	.16	.00	30.85
1917-18	.00	1.01	.00	1.96	6.25	23.22	.43	.64	1.50	.53	1.23	.49	37.26
1918-19	.19	2.41	4.13	.14	5.98	5.28	1.32	.21	.00	1.62	.32	3.55	25.15
1919-20	2.05	4.48	2.00	.70	14.92	12.50	.82	T	.00	.15	.05	.03	37.70
1920-21	1.83	1.62	1.55	10.70	2.50	3.60	1.50	3.55	.00	.08	.22	.63	27.78
1921-22	.80	.70	12.90	9.56	7.48	3.60	1.55	.00	.00	.00	.90	T	37.49
1922-23	1.20	1.70	1.10	7.20	7.00	.93	3.08	T	T	.40	.55	1.14	24.30
1923-24	.93	1.60	3.15	.00	.00	10.08	3.55	.00	.00	.32	.00	.60	20.23
1924-25	1.90	1.30	4.60	.40	2.74	4.90	4.00	1.10	3.50	T	.30	.40	25.14
1925-26	4.70	2.54	1.50	2.68	8.47	1.55	17.23	1.40	.00	T	.00	.00	40.07
1926-27	.02	4.26	7.90	1.80	16.56	3.85	1.98	.28	.09	.12	.00	T	36.86
1927-28	2.80	.91	2.87	1.75	6.06	2.21	.53	1.52	.00	T	.00	.00	18.65
1928-29	2.20	1.00	4.27	3.51	4.91	4.10	4.00	.00	T	.00	1.18	.70	25.87
1929-30	.19	.00	.00	9.60	5.05	9.02	1.00	7.39	.00	T	T	T	32.25
1930-31	2.00	5.26	.00	3.04	4.15	.00	7.10	1.60	T	T	4.45	1.22	28.82
1931-32	1.20	5.50	14.29	9.10	20.01	.45	1.93	.20	.35	.00	.00	.00	53.03
1932-33	.15	.15	6.27	11.53	.15	.10	1.74	1.62	.41	.40	T	.00	22.52
1933-34	.52	1.35	16.25	1.40	1.57	.54	.00	.00	1.28	.42			
Means (a)	1.52	2.65	5.68	7.47	7.40	7.16	2.72	1.39	.24	.27	.87	.60	38.26

* Estimated

(a) Monthly average for period of record. Seasonal average for 50 years.

Table 39, continued

BURTON RANCH - on West Fork of Mojave River. Sec. 4, T. 2 N., R.5 W., S. B. M.
Elevation 4400 feet Approx.
Monthly, Seasonal and Average amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1904-05	--	--	2.53	8.47	13.31	14.93	0.32	5.31	0.00	0.00	0.00	0.00	--
1905-06	0.00	7.60	.61	4.93	5.06	25.52	2.92	6.82	.58	.00	.00	.00	54.04
1906-07	.00	6.40	15.08	20.60	7.20	19.52	.56	.00	.40	.00	.00	.00	69.76
1907-08	5.50	.84	1.21	13.53	8.88	4.25	1.70	1.11	.00	.00	.00	.25	37.27
1908-09	2.09	00	3.85	14.34	16.83	6.93	.09	.00	.20	.00	.02	.00	44.35
1909-10	.00	7.61	10.95	10.14	.22	2,80	.40	.00	.00	.00	.00	.10	32.22
1910-11	.91	.75	.09	25.49	13.19	13.69	1.03	.30	.00	.00	.00	4.62	60.07
1911-12	.98	.33	1.97	.57	.00	25.95	5.09	1.35	.00	.00	.00	.00	36.24
1912-13	2.72	.60	.00	6.63	19.44	1.06	1.10	1.09	1.13	.49	.17	.00	34.43
1913-14	.00	5.62	2.30	26.25	17.87	1.48	3.76	.14	.40	.00	.00	.00	57.82
1914-15	.81	.29	11.17	14.92	12.02	2.69	3.24	3.10	.00	--	--	--	--
Means (a)	1.30	3.00	4.52	13.25	10.37	10.80	1.84	1.75	.25	.04	.02	.50	47.36

(a) Monthly average for period of record. Seasonal average for 9 years.

Table 39, continued

CRAB PARK - N. E. Cor. Sec. 16, T. 2 N., R. 2 W., S. B. M. Elev. 5800 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1894-95	--	--	15.27	9.67	0.87	4.97	0.84	0.11	0.00	0.00	0.30	0.00	--
1895-96	0.00	1.85	.45	1.30	T	3.67	1.02	.22	.00	--	--	--	--

DALY SUMMIT - Sec. 29, T. 2 N., R. 3 W., S. B. M. Elevation 5480 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1893-94	--	--	--	--	--	--	--	--	--	0.04	0.31	0.52	--
1894-95	0.38	0.00	20.16	14.12	4.94	8.78	2.58	1.63	0.00	.00	.04	.00	52.63
1895-96	.00	3.77	2.18	4.69	.12	5.51	2.04	.88	.00	*.00	*.00	*.00	19.19

* Estimated.

Table 39, continued

DEEP CREEK - Center of Sec. 20, T. 2 N., R. 2 W., S. B. M. Elev. 5200 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1892-93	--	--	--	--	--	--	--	--	--	0.42	0.33	1.95	--
1893-94	1.19	1.96	3.35	1.94	1.89	2.75	0.70	1.01	0.12	.09	.80	.49	16.29
1894-95	.30	.00	18.41	13.14	2.13	7.21	1.36	.30	.00	.00	.02	.04	42.91
1895-96	.03	2.45	1.09	1.86	.05	3.52	1.75	.28	.00	.00	.78	.07	11.88
1896-97	2.28	1.65	2.41	5.43	12.51	7.59	.00	.19	.10	.00	.29	.28	32.73
1897-98	3.92	.89	1.40	4.20	1.10	1.89	.17	2.93	.00	.11	.55	.00	17.16
1898-99	.00	.53	.49	3.01	1.65	3.34	1.06	.00	.88	.00	.00	.36	11.32
1899-00	4.48	3.58	2.03	1.40	.28	3.07	2.70	4.75	.00	.00	.00	.00	22.29
1900-01	--	--	--	--	--	--	--	--	--	--	--	--	--
1901-02	--	--	--	--	--	--	--	--	--	--	--	--	--
1902-03	--	--	--	--	--	--	--	--	--	--	--	--	--
1903-04	--	--	--	--	--	--	--	--	--	--	--	--	--
1904-05	1.62	.00	1.16	7.32	13.96	8.91	1.43	4.57	.00	.00	.64	.32	39.93
1905-06	.00	4.99	1.07	3.84	5.31	21.57	1.83	6.30	.00	.95	.00	.06	45.92
1906-07	.00	4.86	12.77	10.92	4.43	15.58	.76	.00	.24	.00	.00	.00	49.56
1907-08	5.46	.78	.85	10.97	6.90	1.97	1.76	1.43	.00	.00	.53	1.75	32.40
1908-09	1.87	1.30	3.53	15.09	9.27	4.65	.11	.00	.10	.03	.68	.36	36.99
1909-10	.06	6.54	8.72	14.23	.49	3.04	.00	.00	.00	T	T	T	33.08
1910-11	1.39	1.19	.54	21.08	8.05	13.31	.25	1.11	T	T	.00	2.28	49.20
1911-12	.00	.00	1.86	.00	.00	13.89	3.91	.68	.00	.61	.00	.00	20.95
1912-13	2.00	1.45	.24	4.45	7.87	2.09	.00	.72	.03	.00	.31	.00	19.16
1913-14	.00	4.99	1.52	11.07	18.27	.73	.86	3.18	.20	.00	.25	.07	41.14
1914-15	.27	.25	4.52	8.00	1.22	3.68	3.39	2.56	.00	--	--	--	--
Means (a)	1.38	2.08	3.66	7.66	5.30	6.60	1.22	1.67	.09	.12	.29	.45	30.76

(a) Monthly average for period of record. Seasonal average for 17 years.

Table 39, continued

FLEMING'S MILL - Little Bear Valley at Mill. Sec. 15, T. 2 N., R. 3 W., S. B. M.
Elevation 5010 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1893-94	*1.49	*2.55	7.11	3.38	2.69	3.85	0.81	1.50	0.21	0.04	0.31	0.52	24.46
1894-95	.38	.00	22.90	20.47	3.33	10.40	1.95	.62	.00	.00	.00	.00	60.05
1895-96	.00	3.89	2.40	3.37	.04	6.33	2.07	.42	.00	.00	.20	.00	18.72
1896-97	2.63	2.15	2.36	6.81	14.46	16.76	.05	.16	.30	.00	.21	.30	46.19
1897-98	4.34	.00	1.35	5.72	1.56	3.04	.45	5.50	.00	T	.10	.00	22.06
1898-99	.00	.53	.65	5.28	2.70	5.40	1.19	.27	2.10	.00	.00	.00	18.12
1899-00	4.50	3.49	3.22	1.83	.42	4.47	3.49	7.09	.00	.00	.00	.27	28.78
Means (a)	1.91	1.80	5.71	6.69	3.60	7.18	1.43	2.22	.37	.01	.12	.16	31.20

* Estimated same as Little Bear Valley at Gate House.

(a) Monthly and seasonal averages for 7 years.

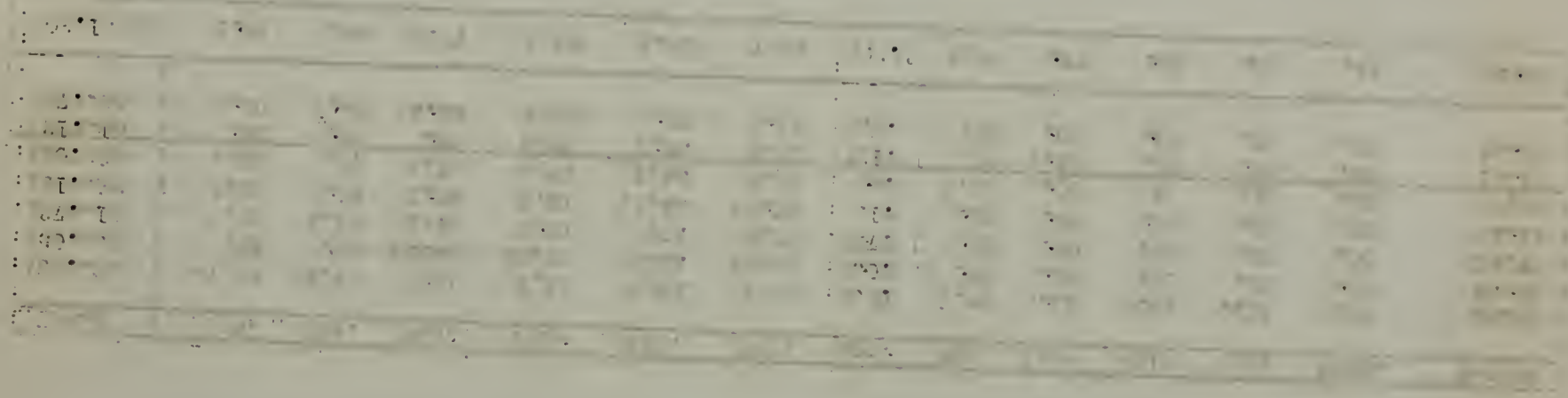


Table 39, continued.

FORKS OF MOJAVE - Sec. 18, T. 3 N., R. 3 W., S. B. M. Elev. 3000 feet, approx.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1904-05	0.00	0.00	0.77	3.38	6.11	6.87	0.32	1.89	0.00	0.00	0.00	0.00	19.34
1905-06	.00	3.28	.25	.46	1.78	7.93	.54	.67	.00	.32	.00	.00	15.23
1906-07	.00	3.81	5.81	5.93	1.73	7.91	.15	.00	.11	.00	.00	.00	25.45
1907-08	1.04	.06	.04	4.90	2.84	.63	.43	.25	.00	.11	.00	.33	10.63
1908-09	.67	.00	.91	4.10	1.96	1.86	.00	.00	.00	.23	1.54	.00	11.27
1909-10	.00	2.73	6.21	5.58	.07	.74	.04	.00	.00	.00	.00	T	15.37
1910-11	.51	.21	.05	5.72	3.29	1.75	.02	T	.00	.05	.00	1.04	12.64
1911-12	.94	.24	.52	.19	.00	3.50	1.50	.47	.00	.00	.00	.00	7.36
1912-13	.86	.00	.00	2.11	3.87	.33	.17	.00	.00	.50	2.29	.40	10.03
1913-14	.00	1.89	.31	6.45	7.16	.39	1.04	.17	1.05	.00	.00	.00	18.46
1914-15	.00	.23	3.22	5.28	4.73	.68	.69	.11	*.00	*.00	*.25	*.04	15.53
1915-16	*.39	*.89	*1.50	9.58	.42	.76	.16	.12	.00	.00	.00	.02	13.84
1916-17	1.58	.00	3.40	3.46	.89	.28	.91	.00	.00	.00	.45	.00	10.97
1917-18	.00	.04	.00	.25	3.18	5.85	.02	.00	.00	.00	.47	.21	10.02
1918-19	1.72	.58	1.43	.02	1.56	2.27	.14	.00	.00	T	.18	.00	7.90
1919-20	.00	1.72	1.05	.70	3.67	3.38	T	.18	.00	*.00	*.00	*.00	10.70
Means (a)	.45	.98	1.59	3.63	2.70	2.82	.38	.26	.07	.08	.32	.12	13.42

* Estimated

(a) Monthly average for period of record. Seasonal average for 16 years.

Table 39, continued

GATE HOUSE in Little Bear Valley, Sec. 10, T.2 N., R. 3 W., S. B. M.
Elevation 5100 feet approx.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1892-93	0.17	4.39	4.49	10.14	1.79	19.35	0.84	0.18	.00	0.07	0.10	1.11	42.63
1893-94	1.49	2.55	7.61	2.48	2.25	3.16	.62	1.34	.00	.04	.31	.52	22.37
1894-95	.38	.00	20.12	15.25	2.01	8.82	1.31	.24	.00	.00	T	.00	48.13
1895-96	.00	2.65	1.75	2.38	T	4.21	1.72	.47	.00	.00	.23	.00	13.41
1896-97	2.30	1.38	1.98	5.16	12.05	10.17	.03	.15	.20	.00	.21	.46	34.09
1897-98	4.10	.76	1.47	4.16	1.38	2.47	.75	4.56	.00	.00	.10	.00	19.75
1898-99	T	.62	.74	4.11	2.30	3.38	1.13	.14	1.14	.00	.00	.02	13.58
1899-00	4.45	3.17	1.75	1.39	.43	3.42	3.11	4.63	.00	T	.00	.22	22.57
1900-01	.53	11.28	.00	9.57	11.00	.54	.25	3.46	.00	.00	.67	.00	37.30
1901-02	4.10	1.08	.22	2.44	2.75	7.39	1.62	.26	.17	.00	.00	.00	20.03
1902-03	.36	3.18	2.59	6.34	2.82	6.92	7.57	.35	.00	.00	.56	1.38	32.07
1903-04	.55	.00	.00	1.10	5.87	10.59	3.31	.48	.00	.50	.71	.00	23.11
1904-05	.92	.00	1.56	6.98	11.58	8.94	.93	4.56	.00	.00	.00	.15	35.62
1905-06	.00	4.89	.39	3.74	3.79	22.99	2.41	4.33	.21	.45	.00	.53	43.73
1906-07	.00	5.90	13.42	12.80	5.15	17.89	.73	.00	.61	.00	.00	.00	56.50
1907-08	5.11	.36	.58	10.71	5.56	1.36	1.44	1.17	.00	.30	.07	1.20	27.86
1908-09	2.28	.65	2.66	20.02	9.78	3.54	.07	.02	.10	.00	.49	T	39.61
1909-10	.36	5.79	13.19	11.09	.49	1.33	.51	.00	.00	T	T	.05	32.81
1910-11	.90	.88	.12	20.87	8.65	12.31	.41	.44	T	.02	.00	2.27	46.87
1911-12	1.19	.55	1.66	.33	.00	15.78	3.96	.36	T	.13	.03	.00	23.99
1912-13	2.14	.85	T	4.11	9.65	2.38	1.07	1.13	.50	.31	.76	.00	22.90
1913-14	.00	1.87	1.39	19.10	16.37	1.01	2.74	.05	.28	.00	.00	.00	42.81
1914-15	1.08	.22	4.07	8.52	10.03	2.22	3.45	2.00	.00	--	--	--	--
1915-16	--	--	--	--	--	--	--	--	--	--	--	--	--
1916-17	--	--	--	3.21	4.25	1.38	1.82	.79	.00	.10	.27	.00	--

(Cont'd.)

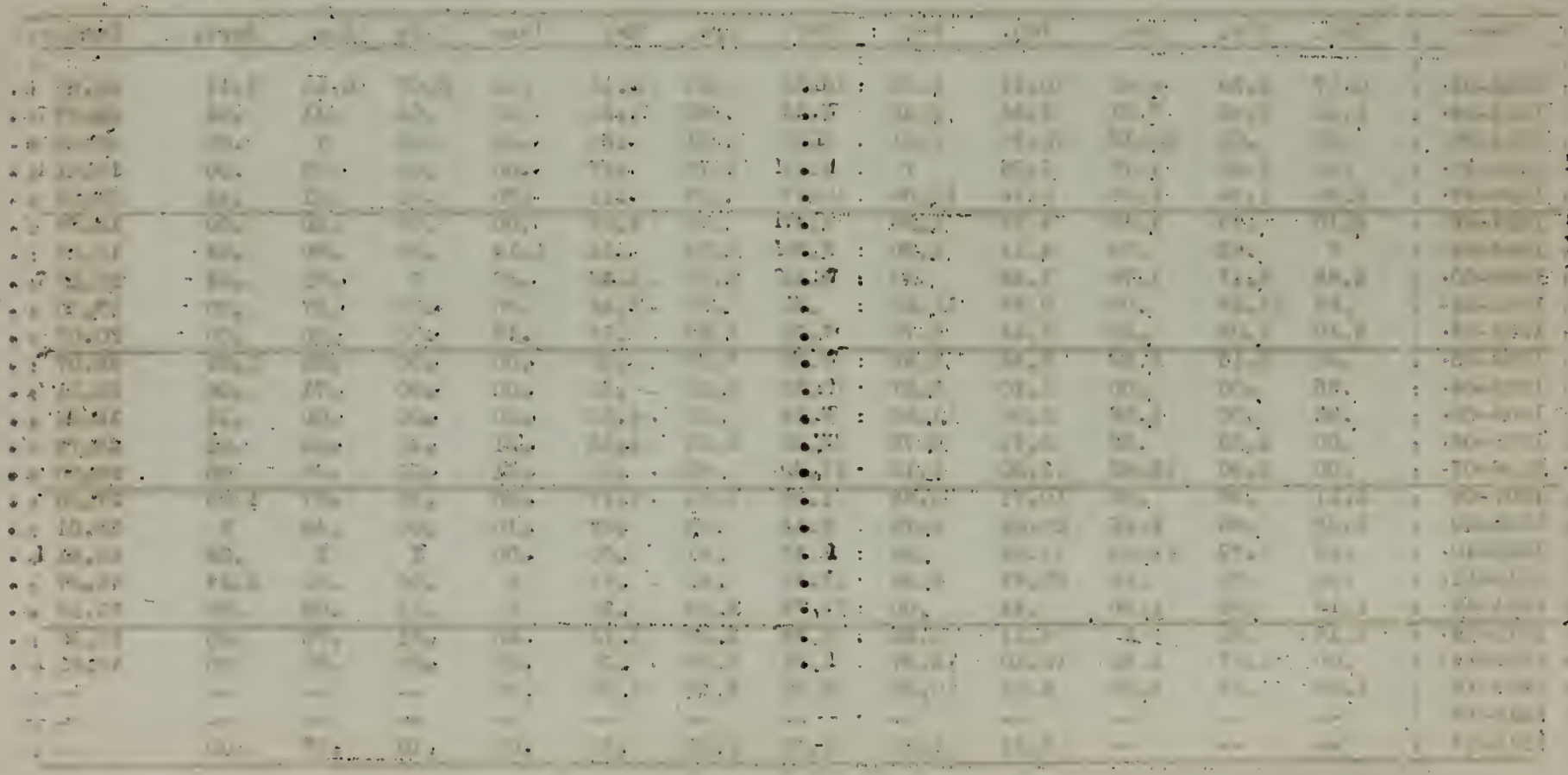


Table 39, continued

Gate House in Little Bear Valley (Continued).

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1917-18	.00	.00	1.09	0.82	7.72	15.48	8.53	.28	.42	.00	.33	.00	34.67
1918-19	1.86	2.90	3.83	.00	3.27	4.46	1.85	.00	.00	.00	.00	2.30	20.47
1919-20	2.20	3.62	4.19	1.62	11.12	13.12	1.80	.70	.00	--	--	--	--
1920-21	--	--	--	--	--	--	--	--	--	--	--	--	--
1921-22	1.88	.65	27.30	11.63	9.42	4.03	2.06	1.08	.00	.00	.00	.00	58.05
1922-23	--	--	--	--	--	--	--	--	--	--	--	--	--
1923-24	--	--	--	--	--	--	--	--	--	--	--	--	--
1924-25	--	--	--	--	--	--	--	--	--	.01	.00	.09	--
1925-26	2.96	.63	1.75	2.16	7.94	1.23	19.97	.75	.01	.08	.06	.00	37.54
1926-27	.01	3.82	7.87	1.93	20.32	3.48	1.57	.54	.05	.09	.00	.00	39.68
1927-28	3.72	.36	3.34	1.77	5.82	2.00	.57	1.20	.00	.00	.00	.00	18.78
1928-29	1.25	1.52	4.82	4.68	5.86	5.09	4.30	.02	.29	.00	.15	.62	28.60
1929-30	.00	.00	.00	6.90	2.64	7.81	.59	3.90	.56	.02	.13	.22	22.77
1930-31	1.84	4.61	.00	2.66	2.85	.58	5.27	.88	.00	.30	.74	1.09	20.82
1931-32	1.24	*4.43	*10.16	*2.45	*13.80	.91	*3.21	.26	.31	.00	.00	.00	36.77
1932-33	.07	.00	6.56	20.80	.17	* .50	1.60	1.61	.78	.02	.05	.02	32.18
1933-34	1.17	2.09	14.47	5.58	4.81	.14	2.10	1.49					
Means (a)	1.37	2.10	4.52	6.55	5.94	6.06	2.45	1.15	.15	.07	.16	.33	31.88

* Estimated.

(a) Monthly average for period of record. Seasonal average for 33 years.

Table 39, continued

GRASS VALLEY in Grass Valley at Saw Mill. Sec. 17, T. 2 N.,R. 3 W., S. B. M. Elev. 5190 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1893-94	--	--	8.19	2.88	1.24	2.87	0.67	1.35	0.00	0.00	0.46	0.60	--
1894-95	0.29	0.00	24.59	16.65	3.39	10.13	1.92	.59	.00	.00	.00	.00	57.56
1895-96	.00	3.26	2.32	4.19	T	4.92	3.79	.54	.00	*.00	*.00	*.00	19.02
1896-97	--	--	--	--	--	--	--	--	--	--	--	--	--
1897-98	--	--	--	--	--	--	--	--	--	--	--	--	--
1898-99	--	--	--	--	--	--	--	--	--	--	--	--	--
1899-00	--	--	--	--	--	--	--	--	--	--	--	--	--
1900-01	--	--	--	--	--	--	--	--	--	--	--	--	--
1901-02	--	--	--	--	--	--	--	--	--	--	--	--	--
1902-03	--	--	--	--	--	--	--	--	--	--	--	--	--
1903-04	--	--	--	--	--	--	--	--	--	--	--	.00	--
1904-05	1.39	.00	1.62	7.76	13.86	10.12	.86	5.33	.00	.00	.00	.57	41.51
1905-06	.00	6.00	.47	5.55	5.20	29.27	2.92	6.02	.86	.00	.00	.48	56.77
1906-07	.00	2.15	16.70	21.00	6.09	22.00	1.14	.00	.86	.00	.00	.00	69.94
1907-08	5.20	.30	1.06	14.68	7.31	1.76	1.36	.00	.00	.16	.00	1.75	33.58
1908-09	2.25	.55	2.40	15.15	12.10	3.18	.00	.00	.00	.00	.21	.80	36.64
1909-10	.25	6.09	5.59	10.88	.39	2.00	.48	.00	.00	.00	T	T	25.68
1910-11	.42	.50	.16	16.50	17.32	16.60	.57	.56	.02	T	.00	2.56	55.21
1911-12	1.01	.50	2.32	.13	.00	16.13	4.68	.48	.00	.00	T	.00	25.25
1912-13	2.10	1.10	.15	4.18	11.76	1.92	1.22	.91	.60	.48	1.24	.00	25.66
1913-14	.00	6.34	1.47	21.88	19.44	1.11	2.26	2.01	.05	.00	.00	.00	54.56
1914-15	1.25	.31	5.67	2.73	9.88	1.73	1.51	4.16	0	--	--	--	--
Means (a)	1.09	2.08	5.19	10.30	7.71	8.83	1.67	1.57	.18	.05	.15	.48	38.57

*Estimated.
(a) Monthly averages for period of record. Seasonal average for 12 years.

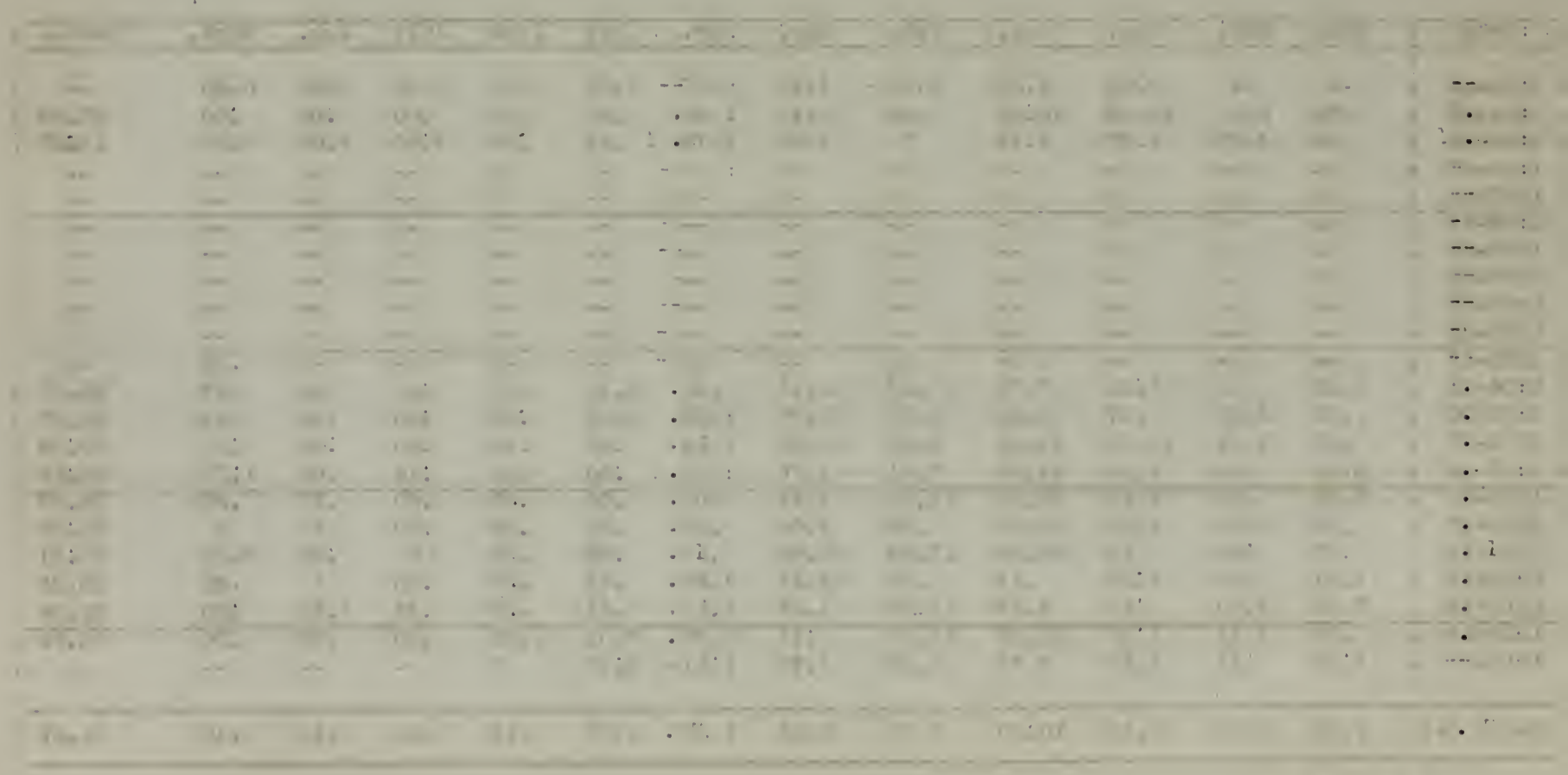


Table 39, continued

GREEN VALLEY in Green Valley at Toll House. Sec. 23, T.2 N., R 2 W., S. B. M.
Elev. 6970 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1892-93	--	--	--	--	--	--	--	--	--	0.50	.20	2.31	--
1893-94	1.06	2.33	5.83	2.18	2.01	3.94	0.75	1.19	0.05	.00	.59	.15	20.08
1894-95	.67	.00	21.64	14.38	1.94	9.24	1.24	.53	.00	.00	.37	.00	50.01
1895-96	.00	5.04	1.40	2.92	T	6.57	2.17	.39	.00	*.00	*.00	*.00	18.49

* Estimated.

HEAP'S PEAK - N. E. Cor. Sec. 25, T. 2 N., R. 3 W., S. B. M. Elev. 6400
feet approx.
Monthly, Seasonal and Average Amounts of Precipitation in Inches

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1894-95	--	--	20.62	20.09	4.84	9.16	2.01	1.04	0.00	0.00	0.00	0.00	57.76
1895-96	0.00	4.43	2.01	3.55	.12	5.36	2.74	.68	.00	*.00	*.00	*0.00	18.89

* Estimated.

Table 39, continued

HELENDALE

Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1904-05	*0.00	*0.00	0.31	1.30	1.94	2.10	0.38	0.43	0.00	0.00	0.00	0.03	6.49
1905-06	.00	1.78	.00	.75	.76	.81	.69	.34	.00	.00	.48	.00	5.61
1906-07	.00	1.00	2.00	1.34	.67	.60	.00	.00	.00	.00	.00	.00	5.61
1907-08	1.62	.00	.00	1.74	1.22	.11	.10	.00	.00	.00	.43	.32	5.54
1908-09	.42	.00	.19	.57	.03	.05	.00	.00	.00	.06	.00	.00	1.32
1909-10	.00	1.12	1.23	1.18	.00	.30	.00	.00	.00	.00	.00	.00	3.83
1910-11	1.08	.00	.00	.90	.82	.00	.00	.00	.00	*.00	*.00	*1.00	3.80
Means (a)	.44	.56	.53	1.11	.78	.57	.17	.11	.00	.01	.13	.19	4.60

*Estimated

(a) Monthly and Seasonal average for 7 years.

Table 39, continued

HESPERIA - Elev. 3190 feet approx.

Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1904-05	*0.00	*0.00	0.58	2.07	3.97	4.65	0.08	1.07	0.00	0.00	0.00	0.00	12.42
1905-06	.00	2.78	.06	.25	.24	1.10	.28	.07	.00	.02	.00	.00	4.80
1906-07	.00	4.65	1.36	3.15	1.55	3.21	.00	.00	.00	.00	.00	.00	13.92
1907-08	2.02	.06	.00	3.02	2.29	.32	.00	.06	.00	.00	.25	.15	8.17
1908-09	1.00	.00	.40	1.42	.80	1.19	.00	.00	.00	.00	.95	.05	5.80
1909-10	.00	1.02	5.77	.42	.00	.78	.00	.00	.00	.00	.00	.00	7.99
1910-11	.05	.00	.00	3.18	2.47	1.45	.06	.00	.00	.04	.00	2.31	9.56
1911-12	.09	.00	.16	.05	.00	4.58	.84	.20	.00	.00	.00	.00	5.92
1912-13	.00	.26	.00	.60	1.98	.29	.00	.06	.00	.74	.45	.00	4.38
1913-14	.07	1.10	.32	4.77	3.34	.12	.93	.09	.11	.00	.00	.00	10.85
1914-15	.68	.23	2.29	3.26	2.12	.42	.45	.11	.00	--	--	--	--
Means (a)	.36	.92	1.06	2.02	1.70	1.65	.24	.15	.01	.08	.16	.25	8.38

* Estimated

(a) Monthly average for period of record. Seasonal average for 10 years.

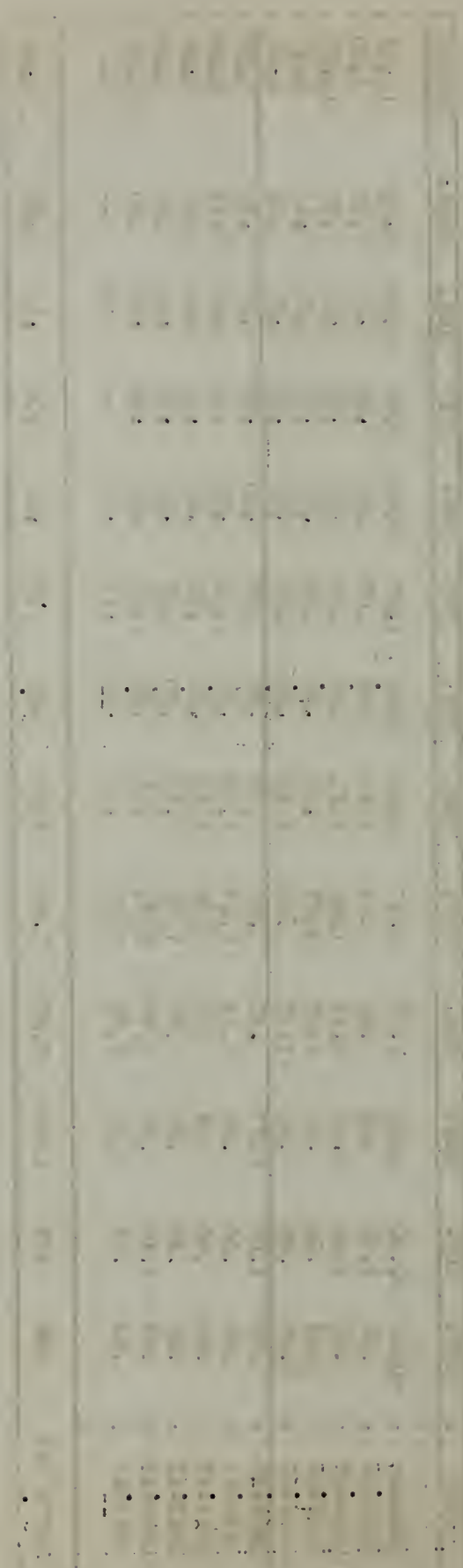


Table 39, continued

HOLCOMB CREEK at Holcomb Creek Station. N. E. Corner Sec. 10, T. 2 N., R. 2 W., S. B. M. Elev. 5250 feet approx.

Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1892-93	--	1.62	1.52	5.52	0.44	9.12	0.41	--	--	0.50	0.58	1.49	--
1893-94	0.65	2.23	3.66	.87	.90	1.70	.40	0.79	0.03	.03	.86	.48	12.60
1894-95	.45	.00	15.69	10.06	.61	4.86	.62	.01	.00	.00	.49	.00	32.79
1895-96	.00	1.89	.41	1.56	T	3.24	1.02	.25	.00	.00	.47	.35	9.19
1896-97	1.70	1.05	1.82	3.35	7.89	3.42	.00	.11	.00	.00	.51	.38	20.23
1897-98	3.32	.41	.81	3.05	.52	1.27	.10	1.46	.00	.00	.66	.00	11.60
1898-99	.00	.57	.48	1.89	1.30	1.35	.53	.00	.18	.00	.00	.17	6.47
1899-00	2.95	3.48	1.00	.63	.35	1.90	2.08	1.20	.00	--	--	--	--
1900-01	--	--	--	--	--	--	--	--	--	--	--	--	--
1901-02	--	--	--	--	--	--	--	--	--	--	--	--	--
1902-03	--	--	--	--	--	--	--	--	--	--	--	--	--
1903-04	--	--	--	--	--	--	--	--	--	--	--	.00	--
1904-05	1.33	.00	1.27	4.64	9.69	8.06	.73	2.47	.00	.00	.39	.03	28.61
1905-06	.00	4.68	1.04	1.63	2.47	16.43	1.59	1.34	.00	.85	.83	.12	30.98
1906-07	.00	.00	12.02	8.10	1.39	11.33	.33	.00	.10	.00	.00	.00	33.27
1907-08	4.29	.24	.17	8.24	4.96	1.13	.98	.51	.00	1.04	.49	.78	22.83
1908-09	1.30	1.08	3.08	9.22	4.51	3.21	.04	.00	.23	.00	2.02	.27	24.96
1909-10	.00	4.88	5.13	12.91	.24	2.62	.00	.00	.00	.27	T	T	26.05
1910-11	.84	.98	.54	14.71	4.16	7.69	.15	.33	T	.03	.00	.00	29.43
1911-12	2.52	.14	1.35	.00	.00	9.61	2.36	.78	.00	.50	.00	.00	17.26
1912-13	1.12	.48	.09	2.37	5.35	1.16	.00	.30	.70	1.20	3.76	.00	16.53
1913-14	.00	3.43	.95	17.04	5.65	.47	.65	2.99	.29	.00	.60	.00	32.07
1914-15	.73	.22	3.72	6.56	14.47	2.24	2.07	1.26	.00	--	--	--	--
Means (a)	1.18	1.44	2.88	5.91	3.42	4.78	.74	.77	.09	.26	.69	.23	22.18

(a) Monthly averages for period of record. Seasonal average for 16 years.

Table 39, continued

HOLCOMB CREEK,UPPER,in Holcomb Valley. Sec. 31, T. 3 N., R. 1 E., S. B. M.
Elev. 7250 feet approx.

Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1892-93	--	--	--	--	--	--	--	0.20	0.00	0.50	0.50	0.00	--
1893-94	0.00	3.75	4.50	1.00	1.75	2.25	0.00	.40	.00	.60	.90	.80	15.95
1894-95	.30	.00	12.30	6.90	.50	1.90	.10	.00	.00	.00	.30	.00	22.30
1895-96	.00	.90	.20	1.00	.00	3.50	.50	.20	.00	.20	2.30	.50	9.30
1896-97	1.00	.50	.90	3.30	3.70	1.30	.00	.20	.00	1.10	1.00	.60	13.60
1897-98	2.40	.40	.90	2.60	.40	1.50	.50	.90	.00	.10	.70	.00	10.40
1898-99	.00	.20	1.00	1.50	1.10	2.00	.60	.00	.00	*.00	*.00	*.00	6.40
Means (a)	.62	.96	3.30	2.72	1.24	2.08	.29	.29	.00	.36	.87	.31	13.00

* Estimated.
(a) Monthly averages for period of record. Seasonal average for 6 years.

HUSTON FLAT at Huston Flat. Sec. 23, T. 2 N., R. 4 W., S. B. M.
Elevation 4550 feet.

Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1893-94	--	--	--	--	--	--	--	--	--	0.00	0.50	0.38	--
1894-95	0.30	0.00	10.97	17.97	3.47	11.84	2.77	1.18	0.00	.00	.00	.00	48.50
1895-96	.00	4.31	2.35	4.10	.06	6.43	1.63	.81	.00	--	--	--	--

Table 39, continued

KUFFELS - N. W. Cor. Sec. 26, T. 2 N., R. 3 W., S. B. M. Elev. 5520 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1893-94	--	--	3.35	1.88	1.25	1.65	0.70	T	0.00	0.00	0.00	0.85	--
1894-95	--	--	24.68	18.97	5.86	11.39	2.37	1.48	.00	.00	.00	.00	--
1895-96	0.00	4.34	3.20	4.35	.14	6.23	2.85	.70	.00	--	--	--	--

Table 39, continued

LOS FLORES RANCH - S. W. Corner Sec. 29, T. 3 N., R. 4 W., S. B. M.
Elevation 3200 feet, approx.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1909-10	--	--	--	10.11	0.01	.80	0.05	0.00	0.00	0.00	0.00	0.00	--
1910-11	0.53	0.41	0.09	11.80	5.35	5.15	.00	.00	.00	--	--	--	--
1911-12	--	--	--	--	--	--	--	--	--	.00	.00	.00	--
1912-13	.75	.17	.00	3.55	6.02	0.41	--	--	--	--	--	--	--

BURCHAM RANCH - S. W. Corner Sec. 29, T. 3 N., R. 4 W., S. B. M.
Elev. 3200 feet, approx. (Probably same as Los Flores Ranch.)
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1904-05	--	--	0.92	4.55	9.57	12.19	--	--	--	0.00	0.00	0.00	--
1905-06	0.00	3.08	.24	1.27	2.16	15.42	0.82	1.83	0.06	T	.05	.01	24.94

Table 39, continued

MEASOR'S - N. W. Cor. Sec. 27, T. 2 N., R. 3 W., S. B. M. Elev. 5480 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1894-95	--	--	23.87	19.21	5.63	11.54	2.47	1.69	0.00	0.00	0.00	0.00	--
1895-96	0.00	3.14	2.70	5.15	.12	8.17	2.80	.92	.00	--	--	--	--

MORSE'S - S. $\frac{1}{2}$, Sec. 20, T. 2 N., R. 3 W., S. B. M. Elevation 5350 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1892-93	--	--	--	16.44	6.64	31.35	1.55	0.04	0.00	0.07	0.00	0.25	--
1893-94	2.42	2.75	14.73	4.78	3.93	5.00	.63	2.08	.60	.02	.74	.67	38.35
1894-95	.47	.00	26.77	18.00	5.85	12.54	2.91	1.48	.00	.00	.03	.00	68.05
1895-96	.00	4.18	3.11	5.95	.08	7.90	2.63	.89	.00	.00	.46	.00	25.20
1896-97	3.83	1.96	2.73	9.34	20.14	15.61	.15	.18	.40	.00	.12	.73	55.19
1897-98	5.08	2.65	1.85	6.37	2.96	4.22	.70	8.27	.00	.08	.13	.00	32.31
1898-99	.34	.74	1.28	7.04	3.23	7.99	1.37	.55	2.73	.00	.00	T	25.27
1899-00	4.59	4.38	5.17	2.20	.44	3.83	5.81	8.64	.00	T	.00	.85	35.91
1900-01	.24	19.58	.00	14.49	18.39	1.26	.36	5.06	.00	.00	.85	.00	60.23
1901-02	7.11	1.63	.50	5.26	5.25	13.32	1.32	.63	.12	.00	.00	.00	35.14
1902-03	1.00	5.10	5.18	9.65	6.50	11.46	15.35	1.28	.00	.00	.56	1.38	57.46
1903-04	.55	.00	.00	1.10	5.87	10.59	3.31	.48	.00	.02	.27	.00	22.19
1904-05	1.71	.00	2.47	10.08	17.77	12.75	1.53	6.58	.00	.00	.00	.60	53.49
1905-06	.00	7.20	.98	8.32	9.17	36.72	4.96	7.69	.28	.00	.00	.80	76.12
1906-07	.00	5.22	20.57	21.75	7.22	29.36	1.88	.00	1.45	.00	.00	.00	87.45
1907-08	6.63	.47	2.29	13.16	10.73	3.05	3.70	2.75	.00	.00	.01	.00	42.79
1908-09	4.00	.90	3.90	35.61	16.87	6.38	1.84	.10	.17	.00	.06	1.84	71.67
1909-10	.63	5.67	15.60	18.33	2.38	4.93	.96	.00	.00	.00	.00	.00	48.50
1910-11	1.44	2.13	.43	17.38	19.98	22.47	1.41	1.54	.00	.00	.00	3.00	69.78
1911-12	1.55	1.60	1.78	2.33	.00	23.09	8.34	1.13	.00	.00	.25	.00	40.07

(Cont'd)

Table 39, continued

Morse's (Continued)

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1912-13	2.95	2.12	.28	7.54	7.41	12.12	2.21	1.71	1.32	.32	.32	.00	38.30
1913-14	.00	8.15	2.66	28.93	22.54	4.42	3.37	3.94	1.20	.00	.00	.00	75.21
1914-15	1.83	.28	10.93	.76	24.63	3.43	3.86	10.26	.00	--	--	--	--
1915-16	--	--	--	--	--	--	--	--	--	--	--	--	--
1916-17	--	--	--	13.61	--	3.17	3.51	3.55	.00	.00	.00	.00	--
1917-18	.00	2.10	--	1.72	9.25	25.18	1.32	.50	.00	--	--	--	--
Means (a)	2.01	3.43	5.60	11.21	9.47	12.49	3.00	2.77	.33	.02	.17	.44	50.41

(a) Monthly average for period of record. Seasonal average for 21 years.

RIDGE - Center of Section 18, T. 2 N., R. 3 W., S. B. M. Elev. 5350 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1893-94	--	2.70	7.56	2.86	1.24	2.87	0.67	1.35	0.13	0.00	0.46	0.60	20.44
1894-95	0.29	.00	17.01	11.46	1.93	7.21	1.33	.24	.00	.00	.00	.00	39.47
1895-96	.00	3.26	1.40	2.36	T	3.71	1.39	.35	.00	*.00	*.00	*.00	12.47

*Estimated.

Table 39, continued

SQUIRREL INN - Sec. 25, T. 2 N., R. 4 W., S. B. M. Elev. 5280 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1892-93	--	--	--	12.02	3.93	20.61	1.14	0.10	0.00	0.25	0.00	0.38	--
1893-94	1.90	5.08	8.93	4.00	3.23	3.54	1.17	1.37	.33	.00	.62	.50	30.67
1894-95	.34	.00	16.38	14.22	5.35	9.58	2.53	1.14	.00	.00	.00	.00	49.84
1895-96	.00	3.20	1.98	4.51	.08	5.60	1.66	.89	.00	.00	.38	.00	18.30
1896-97	3.20	1.60	2.23	7.65	13.31	12.17	.13	.15	.20	.00	.05	.05	40.74
1897-98	4.02	2.05	1.39	4.98	1.60	2.99	.68	6.48	.00	.00	.00	.00	24.19
1898-99	.37	.70	1.35	5.10	2.84	7.95	.83	.98	2.50	.00	.00	.00	22.62
1899-00	3.56	3.49	4.06	1.73	.26	3.04	4.81	6.37	.00	--	--	--	--
1900-01	--	--	--	--	--	--	--	--	--	--	--	--	--
1901-02	--	-	--	--	--	--	--	--	--	--	--	--	--
1902-03	--	--	--	--	--	--	--	--	--	--	--	--	--
1903-04	--	--	--	--	--	--	--	--	--	--	--	--	--
1904-05	--	--	--	9.80	11.04	9.40	1.10	2.79	.00	.00	.00	.00	--
1905-06	.00	2.33	1.45	5.87	6.84	23.48	--	--	--	--	--	--	--
1906-07	--	--	--	--	--	--	--	--	--	--	--	--	--
1907-08	--	--	--	--	--	--	--	--	--	--	--	--	--
1908-09	--	--	--	--	--	--	--	--	--	--	--	--	--
1909-10	--	9.20	18.50	8.45	.76	4.55	.48	.00	T	T	.00	T	--
1910-11	2.69	2.19	.52	20.85	11.61	10.93	1.26	1.75	.00	T	.00	3.44	55.24
1911-12	1.23	1.50	3.12	.62	T	15.75	6.51	1.11	.00	T	.31	.00	30.15
1912-13	2.32	1.91	.00	4.61	12.97	4.47	1.13	1.35	1.13	.49	.08	T	30.46
1913-14	.13	7.70	3.13	20.83	16.29	2.73	6.69	.26	.78	.00	.00	T	58.54
1914-15	2.35	.27	5.78	6.46	13.38	3.36	6.85	5.12	T	.00	1.05	.58	45.20
1915-16	.00	2.94	7.88	50.29	6.77	5.28	1.25	1.57	.00	.00	.10	1.51	77.59
1916-17	6.54	.70	8.18	2.99	10.65	3.01	3.91	3.83	.00	T	.00	.00	39.81

(Continued)

Table 39, continued

Squirrel Inn (Continued).

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1917-18	.00	1.40	.00	.64	8.88	19.87	1.76	.78	T	T	.37	.71	34.41
1918-19	3.26	4.80	3.62	.62	6.95	6.34	1.26	.30	.00	T	.20	4.05	31.40
1919-20	.13	2.96	3.71	.36	8.53	12.56	2.36	2.34	.00	T	.00	.20	33.15
1920-21	5.90	1.38	2.11	10.33	3.69	9.79	2.87	9.88	.00	T	T	1.31	47.26
1921-22	2.69	1.09	30.70	14.48	13.02	4.29	2.97	3.03	.00	5.01	.00	T	77.28
1922-23	1.31	4.90	12.75	7.69	2.38	3.31	6.85	.07	.00	.00	.00	1.10	40.36
1923-24	1.40	3.23	2.87	2.30	.15	13.00	4.37	.00	.00	.00	.00	.00	27.32
1924-25	3.06	4.45	5.80	.50	2.46	6.17	8.05	1.12	3.20	.00	.00	.10	34.91
1925-26	5.97	2.50	2.50	.88	11.10	.20	21.24	.74	.00	.00	.00	.00	45.13
1926-27	T	4.97	5.36	3.25	24.30	8.80	1.00	1.00	.00	.00	.00	.00	48.68
1927-28	3.65	.40	2.00	.70	5.26	2.56	.06	1.76	.00	.00	.00	.00	16.39
1928-29	.30	.85	5.64	6.82	10.16	5.37	5.26	T	.14	.00	.85	.61	36.00
1929-30	T	.00	.00	13.81	2.51	9.14	2.26	7.64	.00	T	T	.21	35.57
1930-31	1.35	6.29	.00	4.14	6.78	.60	7.87	1.69	.05	T	.52	1.00	30.29
1931-32	2.37	8.62	12.55	5.63	22.97	.42	1.53	T	.22	.00	.00	.00	54.31
1932-33	.12	T	6.09	16.51	.08	.40	1.25	2.24	.80	.13	.04	.02	27.68
1933-34	1.35	1.01	14.91	6.20	4.34	.07	.00	.10	1.31	.00			
Means (a)	1.92	2.84	5.92	8.00	7.27	7.18	3.34	2.01	.31	.18	.14	.49	39.48

Note: Records from Jan. 1893 to Mar. 1906 by Arrowhead Reservoir and Power Company;
Records from Nov. 1909 to July 1934 by United States Weather Bureau.

(a) Monthly average for period of record. Seasonal average for 29 years.

Table 39, continued

STRAWBERRY FLAT - S ½ Sec. 19, T. 2 N., R. 3 W., S. B. M. Elev. 5700 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1893-94	--	--	--	--	0.88	4.17	0.76	1.92	0.00	0.00	0.50	0.38	--
1894-95	0.30	0.00	23.47	19.05	2.62	10.61	2.63	1.08	.00	.00	.00	.00	59.76
1895-96	.00	3.89	2.23	2.59	.08	6.43	2.23	.91	.00	*.00	*.00	*.00	18.36

* Estimated

SUMMIT NO. 2 - 1/8 mile north of S. ¼ Cor. Sec. 20, T. 3 N., R. 5 W., S. B. M. Elev. 3823 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1904-05	--	--	1.15	4.04	8.40	8.96	.38	2.13	0.00	0.00	0.00	0.05	--
1905-06	0.00	4.50	.16	.82	1.45	8.03	.99	.70	.00	.05	.00	.05	16.75
1906-07	.00	4.60	7.57	8.03	3.07	10.11	.00	.00	.10	.00	.00	.00	34.28
1907-08	2.87	.14	.18	8.11	3.78	.60	.35	.17	.00	.80	.00	.33	17.33
1908-09	.70	.00	1.84	3.03	4.49	2.27	.00	.00	.00	.00	1.10	.00	13.43
1909-10	.00	1.39	7.80	7.48	.08	1.46	.05	.00	.00	.00	.00	.00	18.26
1910-11	1.78	.50	.00	6.42	4.98	4.17	.00	.00	.00	--	--	--	--
1911-12	--	--	--	--	--	--	--	--	--	--	--	--	--
1912-13	--	--	--	--	--	--	--	--	--	--	--	--	--
1913-14	--	--	--	7.71	9.70	.40	1.10	.00	.00	.30	.00	.00	--
1914-15	.20	.30	4.35	7.30	5.10	.70	1.15	.00	.00	.00	.30	.00	19.40
1915-16	.00	.02	2.40	--	--	--	--	--	--	--	--	--	--
Means (a)	.69	1.43	2.83	5.97	4.56	4.08	.45	.33	.01	.22	.17	.05	19.91

Note: Records for 1914 and 1915 by United States Weather Bureau.
(a) Monthly average for period of record. Seasonal average for 6 years.

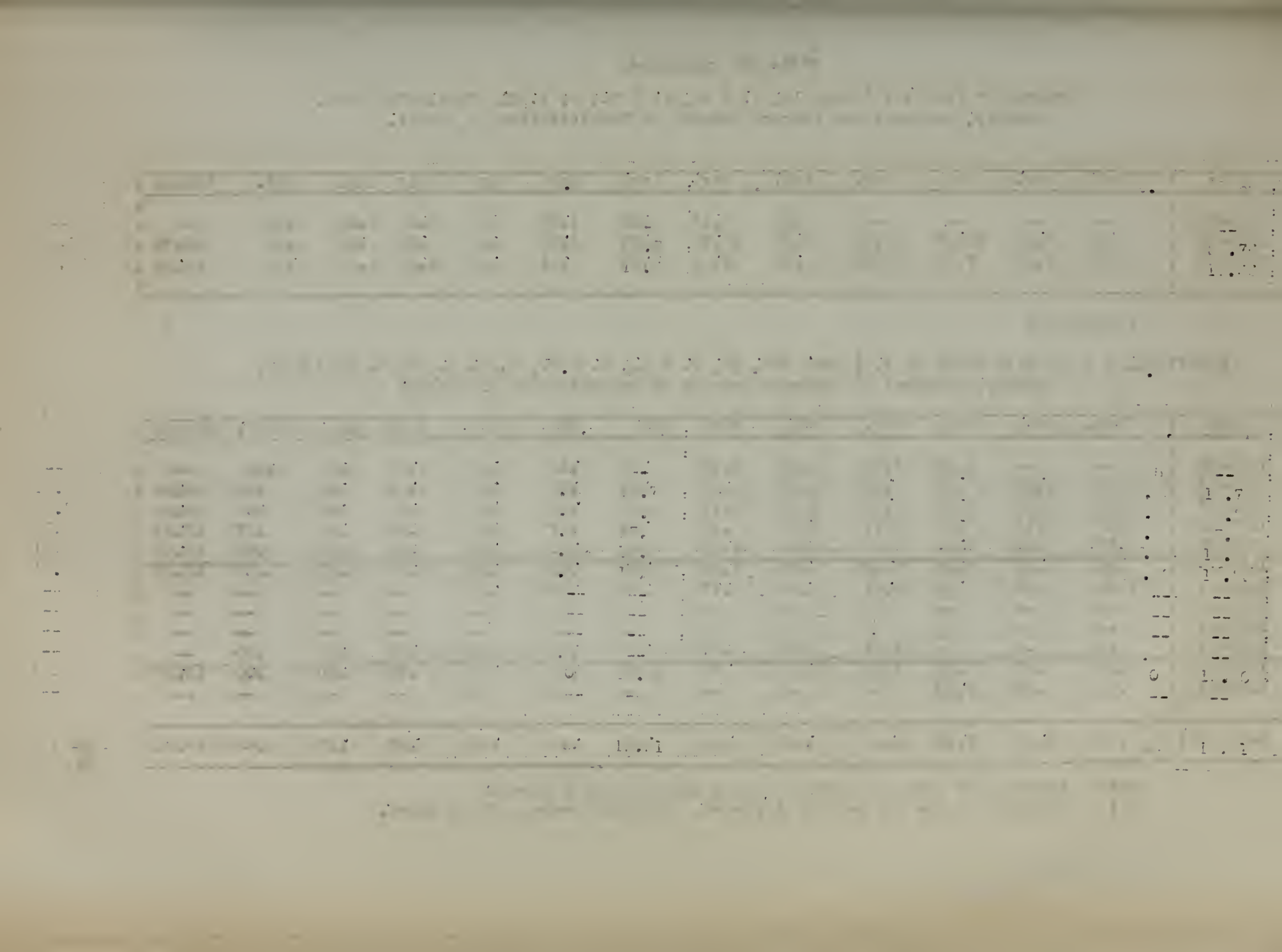


Table 39, continued

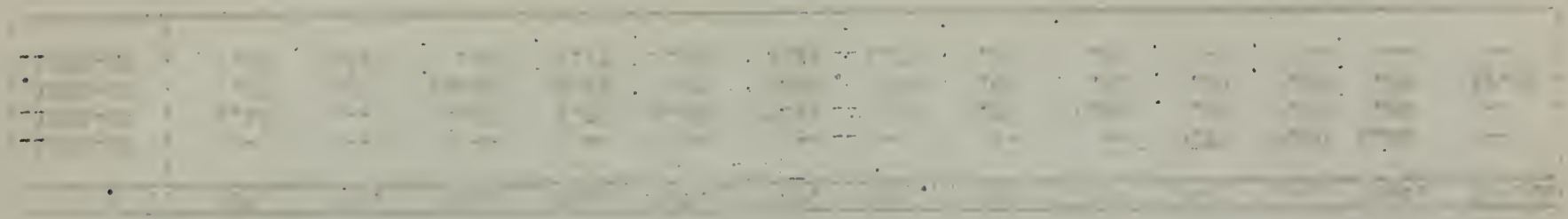
TALMADGE - Upper End of Little Bear Valley. Sec. 16, T. 2 N., R. 3 W., S. B. M. Elev. 5090 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1893-94	--	--	--	--	--	--	--	--	--	0.02	0.74	0.67	--
1894-95	0.47	0.00	27.64	19.55	2.73	10.93	2.27	0.75	0.00	*.00	*.00	*.00	64.34
1895-96	*.00	3.94	3.11	4.64	.05	7.38	2.76	.79	.00	.00	.40	.00	23.07
1896-97	3.70	2.03	2.72	8.09	16.99	14.52	.08	.10	.50	.00	.22	.76	49.71
1897-98	5.29	1.70	1.78	6.51	2.21	3.69	.49	6.79	.00	T	.04	.00	28.50
1898-99	.13	.57	.68	6.71	2.94	6.51	1.30	.31	2.15	.00	.00	T	21.30
1899-00	4.75	3.59	3.70	2.03	.54	4.65	4.06	7.94	.00	.00	.00	.70	31.96
Means (a)	2.39	1.97	6.60	7.92	4.24	7.95	1.83	2.78	.44	.00	.12	.24	36.48

* Estimated.
(a) Monthly averages for period of record. Seasonal average for 6 years.

TUNNEL NO. 2 - N. W. ¼ Sec. 7, T. 2 N., R. 3 W., S. B. M. Elev. 4890 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1892-93	--	--	--	--	--	--	--	--	--	0.10	0.00	0.35	--
1893-94	1.10	--	3.97	1.75	1.42	2.41	0.48	1.23	0.05	.00	.33	.32	--
1894-95	.34	.00	14.96	9.94	.92	5.32	.86	.08	.00	.00	.00	.00	32.42
1895-96	.00	2.34	.96	1.17	.00	3.24	1.23	.22	.00	--	--	--	--



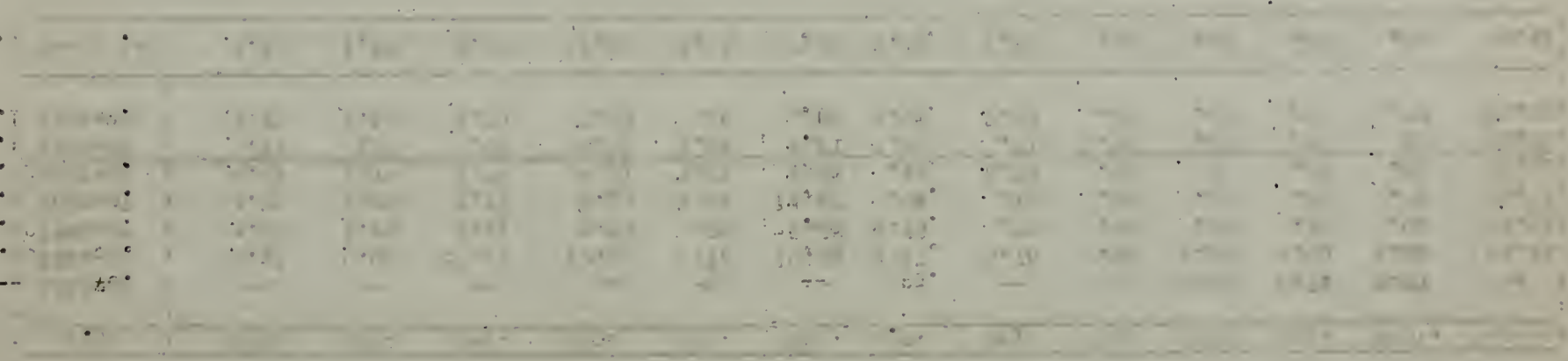


Table 39, continued

UPPER TOLL GATE - S. $\frac{1}{4}$ Cor. Sec. 22, T. 2 N., R. 4 W., S. B. M. Elev. 4980 feet approx.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1893-94	--	--	--	--	--	--	--	--	--	0.00	0.60	0.50	--
1894-95	0.30	0.00	24.45	20.88	5.15	13.27	3.16	1.55	0.00	.00	.00	.00	68.76
1895-96	.00	4.08	2.64	5.34	.08	6.45	1.72	1.26	.00	.00	.00	--	--

VICTORVILLE - Elevation 2716 feet.
Monthly, Seasonal and Average Amounts of Precipitation in Inches.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Season
1904-05	0.10	0.00	0.40	1.27	2.12	2.19	0.04	0.58	0.00	0.00	0.24	0.03	6.97
1905-06	.00	2.80	.02	.37	.74	1.13	.35	.21	.00	.32	.00	.05	5.99
1906-07	.00	1.96	2.00	2.13	1.00	1.15	.00	.00	.00	.00	.00	.00	8.24
1907-08	1.85	.12	.10	1.73	1.51	.26	.02	.16	.00	.00	.10	1.40	7.25
1908-09	.89	.00	.20	.52	.49	1.20	.00	.14	.00	.00	.31	.00	3.75
1909-10	.00	.25	2.01	1.37	T	.53	.00	.00	.00	.21	.00	.00	4.37
1910-11	.23	.17	T	.89	1.26	.23	.20	.06	T	T	.00	1.96	5.00
1911-12	.19	.00	.02	.00	.00	3.10	.18	.11	.00	T	.00	.00	3.60
1912-13	.00	.00	.00	.57	.86	.18	.00	T	.02	.55	.12	.00	2.30
1913-14	.05	.96	.16	3.10	2.00	.10	1.04	.12	.09	.09	.00	T	7.71
1914-15	.46	.15	2.23	2.70	1.58	.32	.50	.13	.00	T	.26	.56	8.89
1915-16	.00	.13	1.04	2.33	.40	.17	.37	.11	.00	.00	.30	.16	5.01
1916-17	.29	.00	1.68	1.57	.06	.27	.11	.18	.00	.08	.00	.00	4.24
1917-18	.03	.00	.00	.13	1.88	1.63	.00	.11	.00	.35	.32	.17	4.62
1918-19	1.50	.81	.45	.02	.00	.00	.00	.00	.00	*.00	*.00	*.00	2.78
Means (a)	.37	.49	.68	1.24	.93	.83	.19	.13	.01	.11	.11	.29	5.38

* Estimated.
(a) Monthly and Seasonal averages for 15 years.

Table 40

Monthly and Seasonal Discharges at Gaging Stations

All the gaging stations for which records are presented are on the Mojave River and its tributaries. The monthly and seasonal discharges at stations maintained by the Arrowhead Company were calculated by the Division of Water Resources from discharge measurements, water stage records and other data made available by the Company. Daily discharges calculated from the same data are presented in a separate report. Monthly and seasonal discharges at stations maintained by the United States Geological Survey are from Water-Supply Papers and unpublished records of that organization.

Table 40

Monthly discharge, in acre feet, of BUCK CREEK above junction with Crab Creek.
All records from Arrowhead Company.

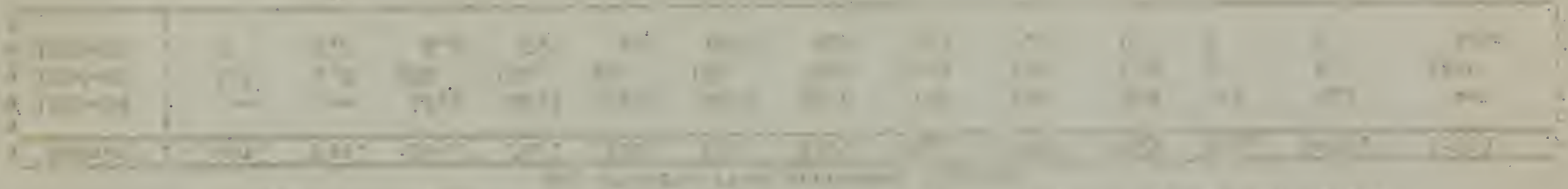
Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1892-93	--	4.7	13.3	37.1	57.0	163	142	57.3	18.7	6.6	1.6	10.4	--
1893-94	2.9	6.6	10.1	12.3	13.5	52.9	26.8	9.3	3.8	1.5	0	0	140
1894-95	--	--	--	103	112	248	125	50.6	19.4	6.9	1.3	0	--

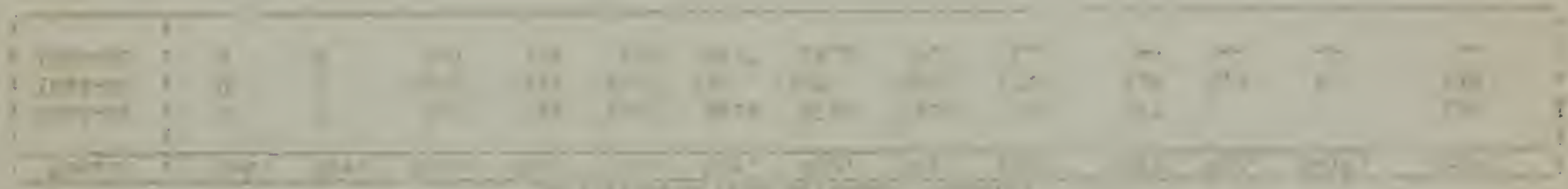
Monthly discharge, in acre feet, of CEDAR CREEK in NW¼ Sec. 19, T.2 N., R.2 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1893-94	0	0	2.1	8.4	12.7	45.9	31.8	14.6	6.2	0.7	0	0	122
1894-95	0	0	24.6	72.4	85.9	159	107	45.8	17.5	4.8	0.9	0	518
1895-96	0	0	0.1	1.8	3.9	16.7	18.0	8.9	1.9	--	--	--	--

Monthly discharge, in acre feet, of COX'S CREEK in NW¼ Sec. 10, T.2 N., R.2 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1893-94	--	--	13.9	22.4	24.8	40.1	15.6	7.3	3.6	0.4	0.3	0.3	--
1894-95	1.5	1.8	433	140	400	185	93.6	19.4	6.3	0.8	0	0	1280
1895-96	0	1.8	4.8	6.7	4.7	15.0	4.8	2.4	0.3	0	0	0	40.5





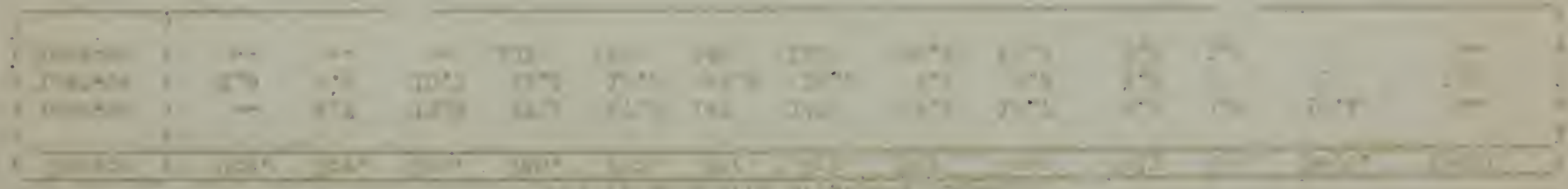


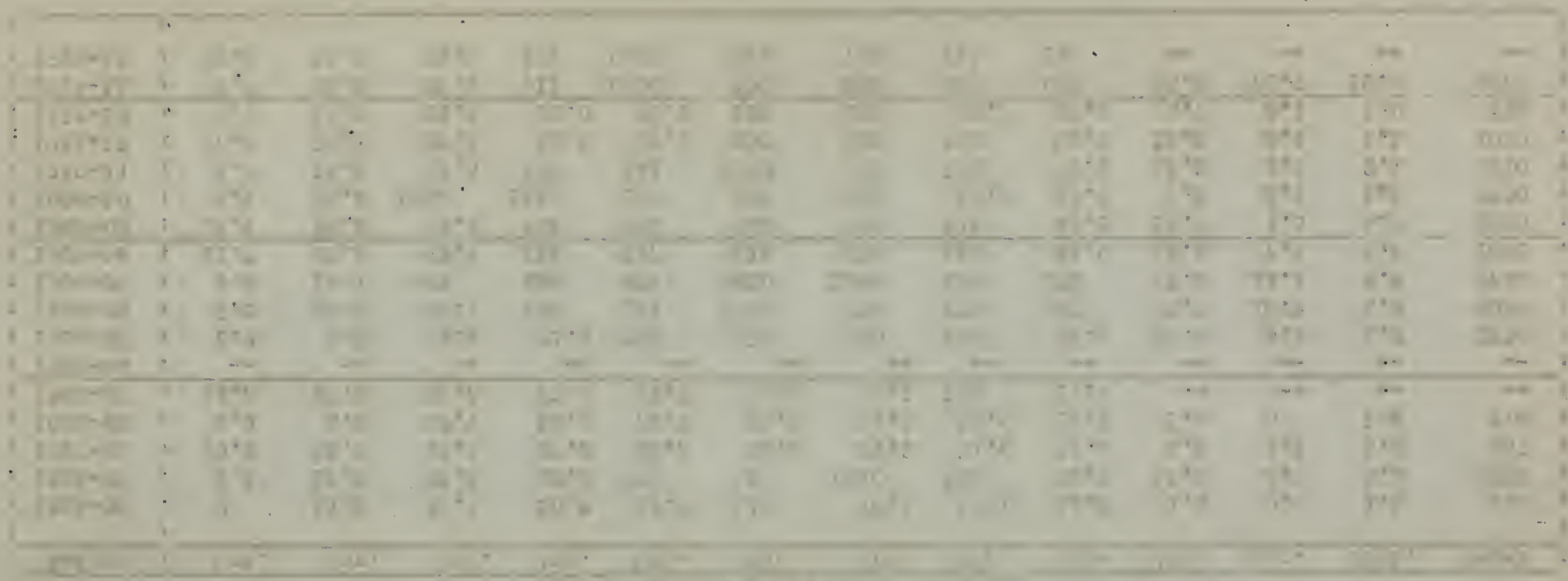
Table 40, continued

Monthly discharge, in acre feet, of CRAB CREEK above junction with Buck Creek.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1892-93	6.5	22.9	67.7	189	207	454	491	169	46.2	13.6	1.4	21.8	1690
1893-94	16.0	24.1	37.6	48.9	55.2	192	123	39.7	19.4	2.0	0	0	558
1894-95	0	6.0	1340	508	477	1250	536	203	61.4	19.9	7.2	0	4410

Monthly discharge, in acre feet, of CRAB CREEK below junction with Buck Creek
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1895-96	0	41.2	40.7	50.6	39.7	143	70.3	37.1	14.5	1.4	0.5	1.5	440
1896-97	4.3	18.6	27.3	42.9	339	424	1110	335	51.0	12.3	3.5	3.9	2370
1897-98	19.4	35.6	42.4	67.8	89.2	55.9	51.2	51.6	12.8	3.6	3.8	3.6	437
1898-99	4.9	4.9	12.7	25.4	71.9	83.0	34.3	26.4	12.2	1.5	0	1.2	278
1899-00	14.8	27.8	26.3	37.4	19.2	25.5	29.1	120	12.5	--	--	--	--
1900-04	--	--	--	--	--	--	--	--	--	--	--	--	--
1904-05	2.9	4.3	9.6	91.8	769	910	245	370	96.8	24.8	3.3	2.3	2530
1905-06	3.0	46.2	35.7	118	111	2410	695	379	157	57.7	15.7	6.8	4030
1906-07	9.8	18.1	497	436	927	2420	1580	595	178	47.8	13.4	6.8	6730
1907-08	41.7	45.5	43.8	212	317	415	328	162	62.0	12.3	7.7	2.6	1650
1908-09	12.7	20.2	58.2	752	689	390	704	316	91.8	16.3	4.5	4.2	3060
1909-10	5.7	42.2	1040	1810	177	292	248	84.4	23.6	3.5	2.2	1.6	3730
1910-11	2.6	18.8	27.5	836	541	2060	555	172	72.4	18.2	3.2	2.1	4310
1911-12	11.2	20.6	29.4	34.8	25.1	250	321	259	59.8	12.8	3.4	4.1	1030
1912-13	9.7	19.9	21.5	28.0	52.1	185	268	96.3	27.6	4.7	2.1	1.0	716
1913-14	3.0	23.8	27.9	811	1510	750	662	552	186	50.6	72.9	18.6	4670
1914-15	48.6	12.3	29.5	178	1810	564	740	711	148	--	--	--	--



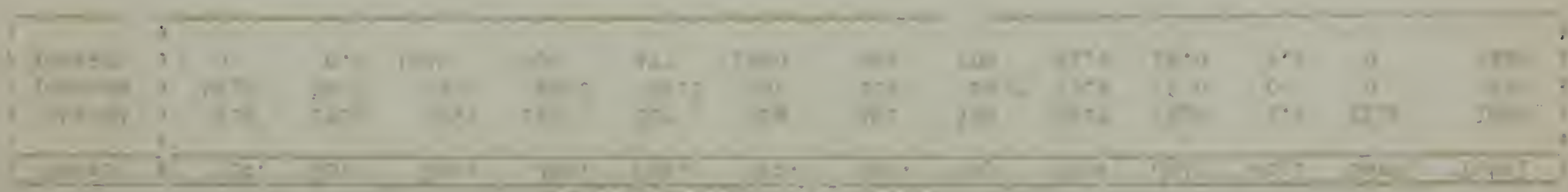


Table 40, continued

Monthly discharge, in acre feet, of LEEF CREEK below Green Valley Creek.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1891-92	--	--	--	--	--	--	--	--	--	137	51.5	41.0	--
1892-93	71.1	289	1520	2920	3110	5340	5410	1360	432	207	109	151	20900
1893-94	117	162	213	407	453	1980	1160	320	170	68.4	42.2	40.2	5130
1894-95	55.3	63.6	5380	4950	3950	8150	3690	1300	443	222	144	137	28500
1895-96	185	265	208	299	245	1070	535	295	137	35.1	32.3	23.4	3330
1896-97	66.0	194	185	300	1620	1680	7440	3360	455	165	72.6	59.9	15600
1897-98	288	181	156	372	774	484	541	1190	228	60.4	30.7	26.8	4330
1898-99	40.4	72.9	84.4	138	224	859	300	187	138	26.0	18.4	17.8	2100
1899-00	557	280	346	396	161	265	411	1920	159	--	--	--	--
1900-04	--	--	--	--	--	--	--	--	--	--	--	--	--
1904-05	96.6	93.5	94.9	609	4050	5180	1980	3040	627	193	77.5	47.4	16100
1905-06	70.7	164	163	1060	1120	11800	3530	2370	970	320	126	88.6	21800
1906-07	84.1	123	1900	1570	5480	11100	9320	2580	650	215	92.9	70.0	33200
1907-08	262	184	189	1210	1730	3720	3100	1470	434	155	72.7	66.8	12600
1908-09	135	135	522	7190	4150	3310	5570	1990	491	166	101	82.5	23800
1909-10	96.7	392	5560	10700	1170	1550	1490	489	178	90.2	47.5	44.0	21800
1910-11	68.9	97.3	104	6610	3390	10600	2120	794	334	146	61.7	59.8	24400
1911-12	115	137	138	164	127	2270	3800	2060	321	140	57.0	49.9	9380
1912-13	109	129	106	142	446	1690	2890	585	259	92.8	55.2	39.7	6540
1913-14	62.1	322	227	4370	9140	4980	2970	2270	535	217	91.5	42.6	25200
1914-15	86.6	126	256	1100	6120	5480	6030	5200	853	--	--	--	--

Monthly discharge, in acre feet, of DRY CREEK in NE$\frac{1}{4}$ Sec. 11, T.2 N., R.2 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1893-94	0	0.2	6.6	9.1	8.0	26.4	7.3	2.5	0.5	0	0	0	60.6
1894-95	0	0	413	86.1	85.1	146	43.5	12.0	3.3	0	0	0	789
1895-96	0	0	0	1.5	1.8	15.6	3.1	1.2	0	0	0	0	23.2

Table 40, continued

Monthly discharge, in acre feet, of EAST FORK OF MOJAVE RIVER (Deep Creek) above junction with West Fork.
All records from Arrowhead Company except seasons marked with * which are from U.S. Geological Survey.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1904-05	--	--	155	1910	13900	22100	6220	8780	1910	465	81.6	46.5	--
1905-06	96.7	465	680	2700	3230	53800	14200	7880	3660	1170	410	221	88500
1906-07	275	1140	9000	14100	21100	49700	26400	9420	3720	1440	703	510	138000
1907-08	1300	1300	1210	5830	8330	9240	6230	3360	1260	417	258	197	38900
1908-09	484	596	1310	11300	15700	8790	12100	4650	1360	490	269	263	57300
1909-10	340	1320	31000	70600	6090	5800	7800	5440	841	183	107	118	129000
1910-11	240	464	606	16000	12600	43000	7800	3520	1640	802	219	136	87000
1911-12	502	713	1190	923	726	7540	8590	5100	1080	399	88.5	59.8	26900
1912-13	185	280	415	689	1930	3680	5430	1120	326	137	493	136	14800
1913-14	79.2	945	701	20700	39700	16200	8630	8430	2890	1210	116	71.5	99700
1914-15	247	295	1220	5280	30800	17000	14800	15200	3950	700	133	102	89700
1915-16	144	439	870	82400	25200	30000	8110	5010	1690	599	275	155	155000
1916-17	1560	817	996	2050	5580	8380	8650	3580	798	95.0	88.8	44.6	32600
1917-18	67.5	162	268	393	2820	32200	3120	1480	561	75.5	37.2	37.8	41200
1918-19	142	440	803	619	1120	3340	4130	789	91.5	36.4	22.6	42.0	11600
1919-20	196	435	1690	689	11700	16100	16600	5260	1160	214	31.3	22.0	54100
1920-21	258	676	606	3590	2910	9600	3620	6800	1790	243	37.6	29.9	30000
1921-22	214	101	51800	21900	44100	17900	21900	13800	3960	768	319	124	177000
1922-29	--	--	--	--	--	--	--	--	--	--	--	--	--
*1929-30	--	--	--	990	1470	6700	4140	6950	827	78.7	49.2	30.9	--
*1930-31	218	893	573	615	3600	1020	3790	1260	234	59.0	44.3	35.7	12300
*1931-32	138	418	3410	1430	28500	14700	11200	5800	1310	198	25.9	13.7	67100
*1932-33	187	308	652	1100	1610	5120	3420	1590	446	19.9	8.1	6.0	14500
*1933-34	14.3	131	2330	5880	1260	1320	446	146	99.4	14.3	20.8	25.8	11700

Monthly discharge, in acre feet, of FERN CREEK, in NW¼ of Sec. 24, T.2 N., R.3 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1893-94	0	0	2.7	5.7	5.7	21.3	14.9	7.1	3.5	0.9	0	0	61.8
1894-95	0	0	15.3	36.2	37.7	80.0	58.5	22.3	9.9	4.0	1.3	0	265
1895-96	0	0.9	0.9	1.8	2.2	6.2	7.0	3.4	1.8	--	--	--	--

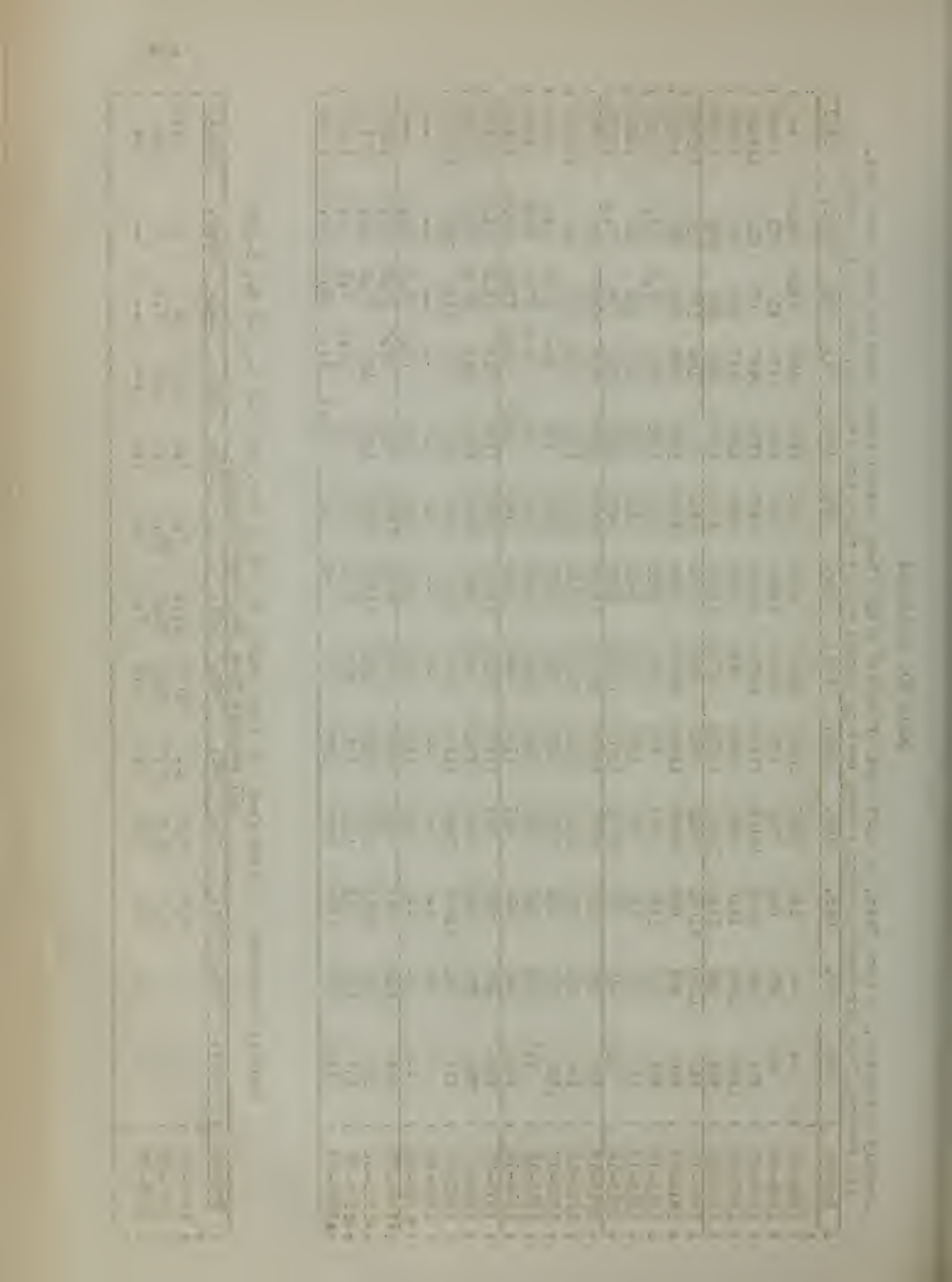


Table 40, continued

Monthly discharge, in acre feet, of GRASS VALLEY CREEK in NW¼ Sec. 17, T.2 N., R.3 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1892-93	13.0	49.8	360	568	871	1560	905	276	126	60.8	26.0	22.1	4840
1893-94	25.1	32.6	48.3	105	140	429	177	95.4	57.2	30.0	14.9	11.0	1160
1894-95	11.4	12.5	734	723	823	1480	699	313	123	54.4	25.3	13.4	5010
1895-96	16.6	56.4	34.7	58.1	53.5	187	116	70.6	32.3	10.7	8.9	5.1	651
1896-97	6.7	13.3	19.1	39.8	466	607	1070	332	76.4	33.2	10.5	7.4	2680
1897-98	28.4	24.7	22.2	43.7	158	133	106	193	38.1	9.0	2.1	2.1	760
1898-99	6.8	10.1	12.4	17.1	22.1	85.6	73.5	30.1	31.1	6.8	2.5	2.4	300
1899-00	20.8	14.9	18.5	26.7	14.6	34.9	50.2	233	30.2	--	--	--	--
1900-04	--	--	--	--	--	--	--	--	--	--	--	--	--
1904-05	6.9	10.3	14.8	127	709	951	355	367	108	40.4	16.1	10.7	2720
1905-06	13.0	32.1	39.2	146	165	2920	455	388	192	74.3	25.5	15.3	4470
1906-07	13.4	28.3	293	331	863	2690	705	244	113	36.1	12.2	7.1	5340
1907-08	28.5	24.6	25.4	221	322	276	150	132	52.4	19.0	8.1	7.6	1270
1908-09	21.2	19.0	27.8	1660	806	225	284	151	87.6	26.7	11.0	8.6	3330
1909-10	8.5	51.0	955	2240	209	238	226	81.6	30.1	12.0	5.0	7.6	4060
1910-11	8.5	10.0	12.4	924	831	210	501	212	78.6	24.4	8.7	4.5	2820
1911-12	10.3	16.8	17.9	34.7	25.2	442	527	213	75.6	29.1	10.7	7.4	1410
1912-13	11.4	19.0	18.2	27.1	164	363	356	106	56.7	24.0	11.4	6.1	1160
1913-14	5.4	36.5	33.4	724	5390	621	480	376	135	--	--	--	--

Monthly discharge, in acre feet, of GUERNSEY CREEK in NW¼ Sec. 10, T.2 N., R.3 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1892-93	--	4.4	46.0	90.0	124	252	96.2	27.7	8.0	3.3	0.7	2.2	--
1893-94	1.4	3.0	3.7	13.9	31.5	66.0	8.5	6.2	2.6	0.3	0	0	137
1894-95	0	0	97.4	82.5	155	196	68.6	28.9	10.2	1.8	0	0	640
1895-96	0	0.1	1.2	3.5	2.1	30.7	7.5	3.3	--	--	--	--	--

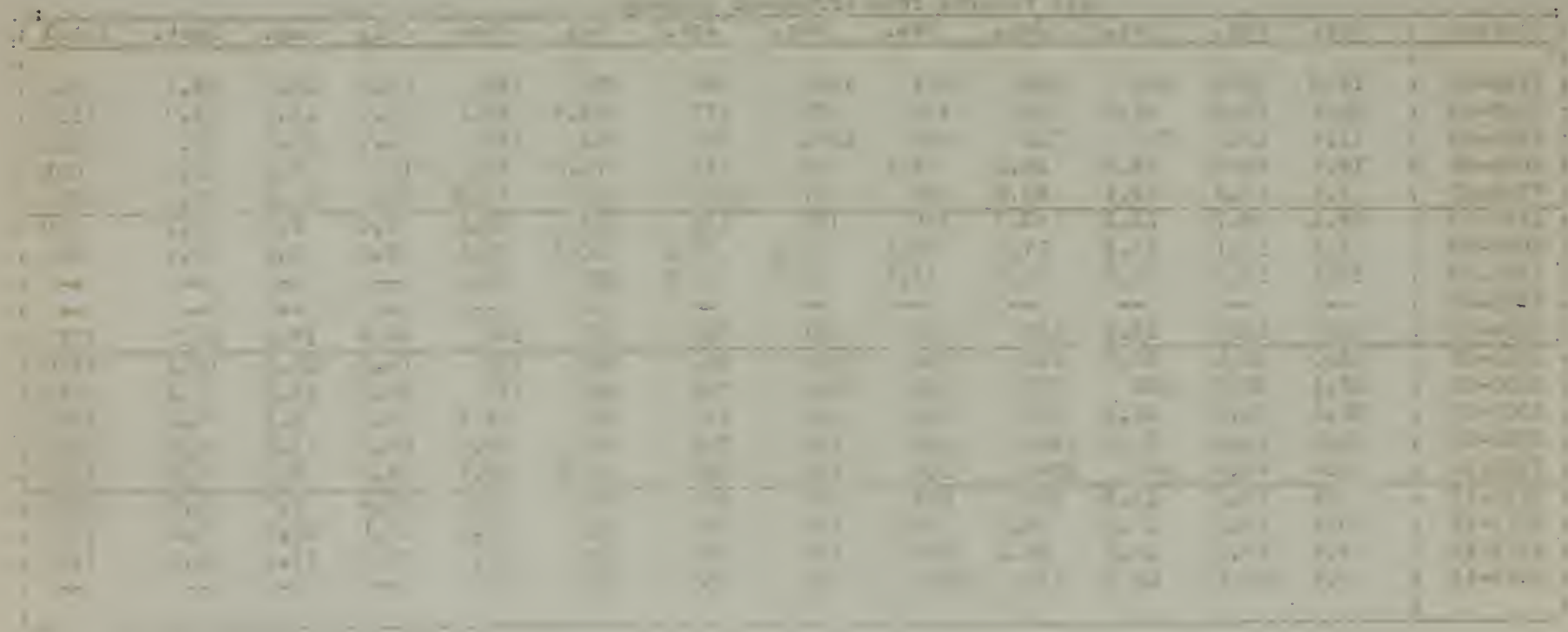


Table 40, continued

Monthly discharge, in acre feet, of HOLCOMB CREEK in NW¼ Sec. 11, T.2 N., R.2 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1892-93	56.9	123	454	1510	1260	2610	2440	810	161	93.3	34.3	62.1	9610
1893-94	85.8	150	234	285	273	1050	680	234	113	38.6	62.7	53.5	3260
1894-95	46.9	63.6	6750	2540	2220	4780	2820	1200	396	134	169	68.5	21200
1895-96	154	282	201	241	221	669	326	234	76.8	11.7	438	25.6	2880
1896-97	50.7	71.7	92.2	201	843	1220	3140	1140	177	128	62.6	61.2	7390
1897-98	125	94.3	83.6	114	131	213	209	121	37.6	0.7	0	0	1130
1898-99	7.1	23.3	44.7	60.2	107	226	155	69.3	31.9	0	0	0	724
1899-00	112	59.2	55.2	97.0	49.7	57.6	76.8	237	33.0	--	--	--	--
1900-04	--	--	--	--	--	--	--	--	--	--	--	--	--
1904-05	23.6	30.4	26.7	223	1170	2400	756	812	252	48.5	3.7	2.6	5750
1905-06	19.7	120	143	267	323	5070	2400	1390	510	229	103	65.7	10600
1906-07	88.4	148	923	1460	2370	6850	5750	2400	922	331	176	122	21500
1907-08	362	308	278	473	908	1680	1370	644	282	122	98.7	65.9	6590
1908-09	120	140	300	1200	1460	1190	2660	1250	370	110	82.4	66.2	8950
1909-10	84.1	215	3620	5010	458	815	834	307	238	129	81.4	78.3	11900
1910-11	125	143	134	2510	1770	5270	1440	623	301	184	73.9	59.0	12600
1911-12	129	159	185	172	140	654	1200	894	175	77.4	22.4	20.4	3830
1912-13	55.1	88.1	94.6	104	150	363	510	199	116	25.7	101	45.4	1850
1913-14	48.6	105	120	1540	3730	1930	1300	1580	431	177	93.2	43.2	11100
1914-15	94.5	112	181	1090	2420	3310	3780	2810	784	--	--	--	--

Monthly discharge, in acre feet, of HOOK'S CREEK in SE¼ Sec. 14, T.2 N., R.3 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1891-92	--	--	--	--	--	--	--	--	--	42.4	25.1	25.8	--
1892-93	21.8	34.6	139	142	350	665	568	228	122	65.5	40.9	45.2	2320
1893-94	49.0	69.2	83.3	78.2	80.0	184	118	74.7	46.4	36.3	34.6	15.5	869
1894-95	23.3	24.8	218	297	347	626	442	217	102	57.2	38.6	26.8	2420
1895-96	30.9	51.4	46.0	53.8	39.9	83.5	61.4	46.3	19.3	--	--	--	--

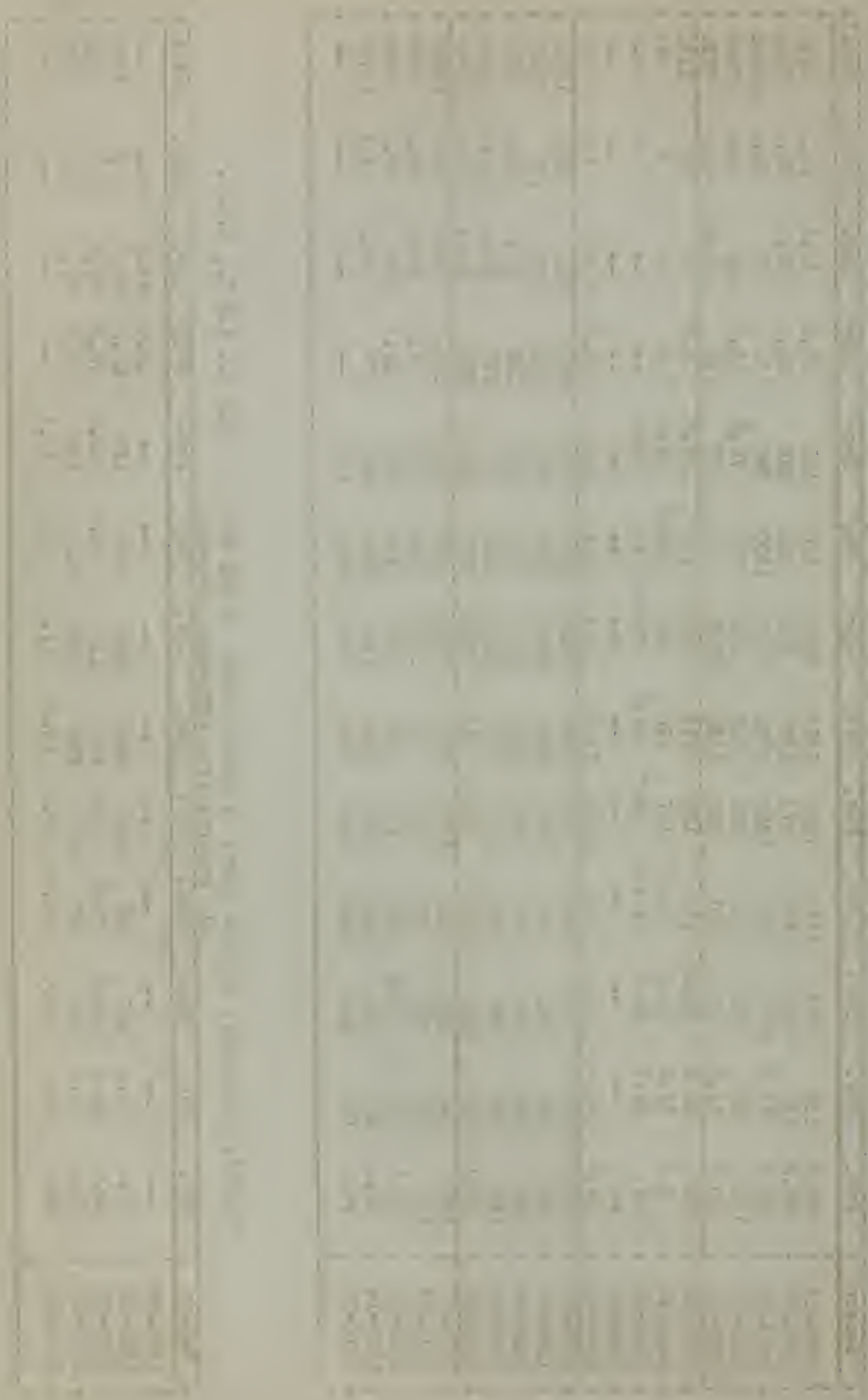


Table 40, continued

Monthly discharge, in acre feet, of HUSTON FLAT CREEK in NW¼ Sec. 23, T.2 N., R.4 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1896-97	1.3	4.7	8.9	46.3	625	859	444	169	44.1	19.9	7.4	3.1	2230
1897-98	7.8	9.3	23.4	49.2	133	75.3	50.9	278	46.1	9.9	3.3	3.0	689
1898-99	3.4	3.0	3.1	19.1	38.9	143	56.7	26.2	22.8	6.1	1.1	0.6	324
1899-00	26.9	5.4	25.4	52.0	32.2	33.3	67.2	208	19.6	--	--	--	--

Monthly discharge, in acre feet, of LITTLE BEAR CREEK at Little Bear damsite.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1892-93	72.0	261	961	1320	2360	5330	2790	857	365	173	94.0	78.9	14700
1893-94	121	206	315	464	545	1100	497	246	116	65.5	46.3	46.2	3770
1894-95	44.6	49.3	1740	1890	2260	3280	1820	846	365	177	76.3	68.1	12600
1895-96	66.3	157	174	267	178	631	347	208	65.8	39.8	27.4	31.8	2190
1896-97	48.5	62.1	75.7	175	1290	1730	1890	728	224	118	50.9	40.4	6430
1897-98	126	104	109	223	449	300	177	598	134	34.6	18.1	16.3	2290
1898-99	19.4	22.8	34.8	63.3	180	385	168	102	89.6	14.8	14.0	9.6	1100
1899-00	35.5	41.5	99.6	157	49.0	138	195	664	61.5	16.2	9.6	8.8	1480
1900-01	9.9	736	148	1140	2020	1750	596	538	161	41.8	24.0	14.9	7180
1901-02	91.0	97.2	77.7	101	366	1070	630	222	90.2	30.4	12.2	8.2	2800
1902-03	11.2	39.4	117	448	421	1630	2830	712	230	94.6	29.2	22.9	6590
1903-04	55.0	61.5	72.6	94.7	262	1100	*545	*430	*415	--	--	--	3200
1904-05	16.5	28.4	23.0	248	1420	1770	527	708	279	116	36.0	*19	5190

* Estimated.

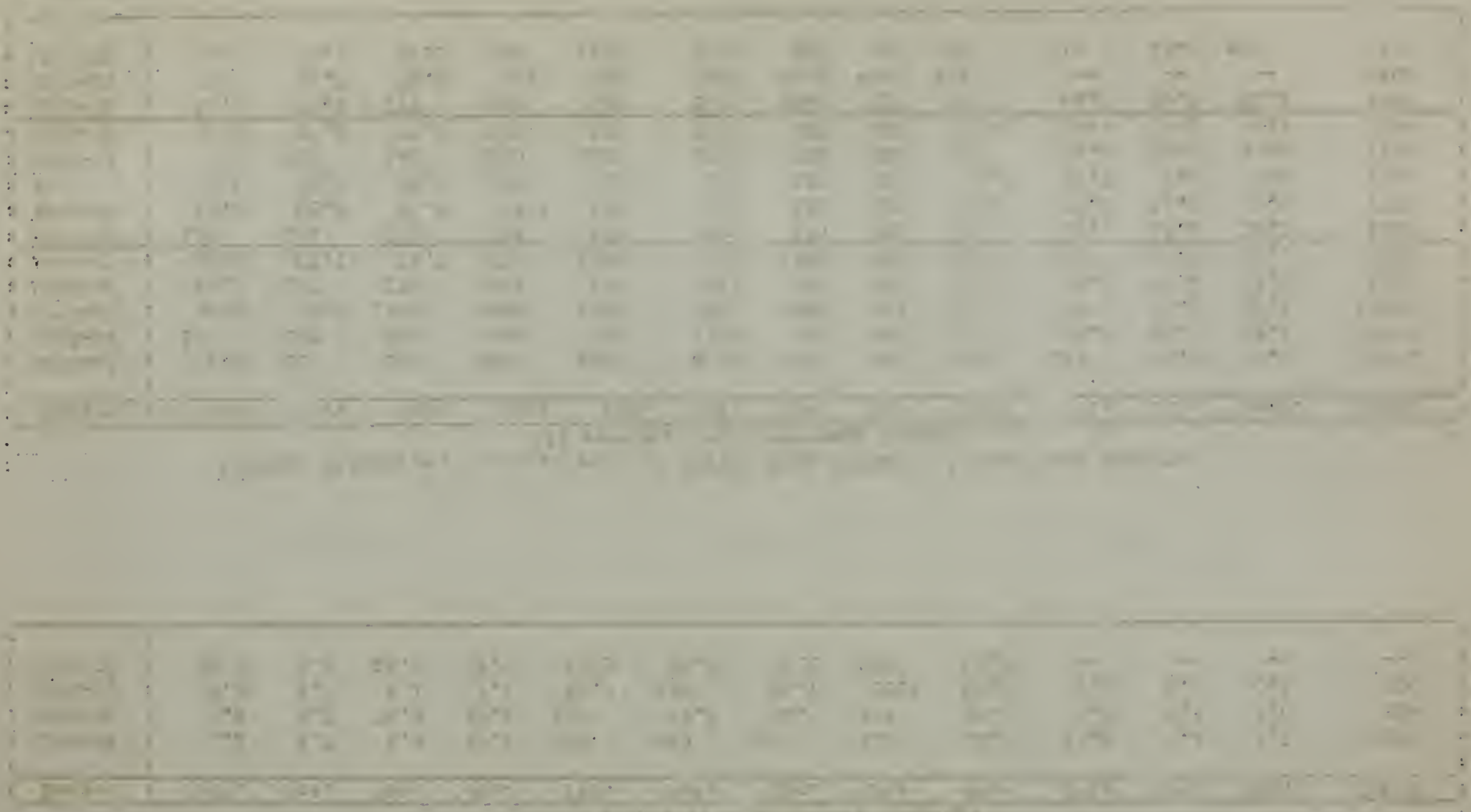


Table 40, continued

Monthly discharge, in acre feet, of LITTLE BEAR RESERVOIR at north end of Tunnel No. 1.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1905-06	0	0	194	650	704	5340	3150	1260	527	0	34.6	0	11900
1906-07	0	429	1220	1880	3420	6340	3420	1240	682	174	13.8	30.8	18800
1907-08	35.2	172	96.5	870	1590	1360	15.2	26.3	23.5	25.3	12.5	10.9	4240
1908-09	5.6	7.2	7.2	7.4	10.6	23.5	25.0	25.7	27.0	28.0	28.2	27.7	223
1909-10	29.4	29.1	31.8	2700	1260	201	4520	3850	2.5	1.8	1.8	1.4	12600
1910-11	1.8	1.8	1.8	1.6	1.7	3.1	3.0	2.5	2.1	1.8	1.8	5.5	28.5
1911-12	163	41.6	332	1.2	1.1	1.8	1.8	1.9	1.8	--	--	--	--
1912-13	--	--	--	--	--	--	--	--	--	--	--	--	--
1913-14	--	--	--	--	--	2420	1160	1200	1160	1200	50.5	0	--
1914-15	0	0	0	0	1510	1080	0	2750	1040	--	--	--	--

Monthly discharge, in acre feet, of MIDWAY CREEK in NW¼ Sec. 9, T.2 N., R.2 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1894-95	0	0	364	33.1	41.4	128	14.0	2.1	0.3	0	0	0	583
1895-96	0	0	0	0.5	0.4	7.6	0.4	0	0	0	0	0	8.9

Monthly discharge, in acre feet, of MILL CREEK in NW¼ Sec. 10, T.2 N., R.3 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1894-95	--	1.5	26.2	25.5	53.5	70.5	39.4	21.6	12.1	6.1	4.7	3.1	--
1895-96	3.1	7.2	6.0	7.6	5.7	14.3	6.8	5.7	2.7	--	--	--	--

Table 40, continued

Monthly discharge, in acre feet, of MOJAVE RIVER below Forks.
All records from Arrowhead Company except seasons marked with * which are from U.S. Geological Survey.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1904-05	--	--	156	2150	20500	56300	9710	15300	246	474	81.9	46.6	--
1905-06	100	467	682	3640	4440	82600	21800	12800	641	1380	414	221	135000
1906-07	284	1140	17100	37200	36900	102000	39200	13600	5190	1480	709	512	255000
1907-08	1300	1300	1310	10800	16300	12900	7880	4650	1310	422	259	197	58600
1908-09	486	597	1310	13500	33600	15500	17400	6200	1600	495	271	264	96200
1909-10	344	1440	43500	102000	9690	7910	9720	5790	552	189	113	119	181000
1910-11	244	468	609	23100	25600	75400	12800	5690	2130	822	225	142	147000
1911-12	509	719	1320	1170	804	16500	15700	6720	1160	406	93.2	61.9	45200
1912-13	187	284	416	894	7060	7450	7020	1480	355	143	499	140	25900
1913-14	79.5	947	704	34200	76000	23700	12400	11500	3640	1220	123	75.6	165000
1914-15	248	297	1680	11600	53000	23500	18000	21300	4810	710	139	108	135000
1915-16	152	458	910	128000	39300	43400	12500	6700	1950	610	280	157	234000
1916-17	1560	921	1730	3870	13700	13900	12200	5340	1360	100	89.6	44.8	54800
1917-18	67.6	163	270	395	3760	46800	4510	1940	652	79.7	37.5	37.9	58700
1918-19	143.	440	864	737	2030	5130	4950	912	98.7	38.1	22.6	42.0	15400
1919-20	196	436	2530	924	17600	33200	24900	7570	1720	220	33.9	22.8	89400
1920-21	259	678	736	6970	4640	16200	5030	13300	4240	257	40.7	30.1	52400
1921-29	--	--	--	--	--	--	--	--	--	--	--	--	--
*1929-30	--	--	--	--	1590	10900	5220	10700	941	78.7	49.2	30.9	--
*1930-31	218	893	577	712	4760	1060	5340	1500	234	59.0	44.3	35.7	15400
*1931-32	138	418	5410	2870	48900	20700	12800	6410	1370	198	25.9	13.7	99300
*1932-33	187	308	652	2500	3000	8570	4660	2120	452	19.9	8.1	6.0	22500
*1933-34	14.3	131	2660	9360	1620	1560	462	146	99.4	14.3	20.8	25.8	16100

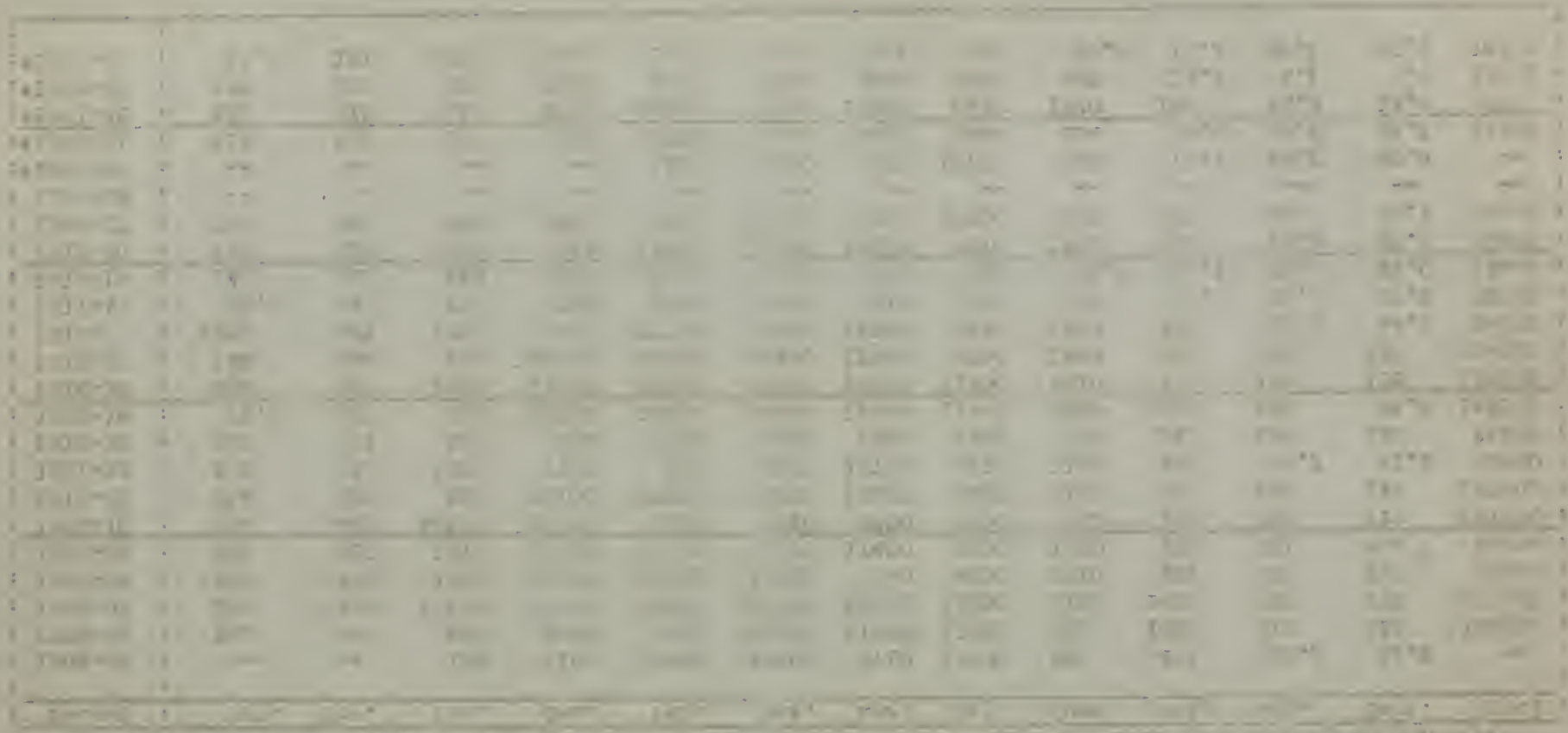


Table 40, continued

Monthly discharge, in acre feet, of MOJAVE RIVER at Victorville.
All records from U.S. Geological Survey.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1898-99	--	--	--	--	--	2270	2200	2030	1730	1660	1480	1310	--
1899-00	1410	1610	1720	2700	2720	3510	2080	2030	1790	1600	1780	1730	24700
1900-01	1970	8270	2030	11300	51400	1 0	2620	3010	2500	2460	3070	3270	103000
1901-02	4240	4580	4490	3070	3330	1 80	3510	2640	2980	2460	2460	2620	40400
1902-03	2890	2740	4000	3500	3500	30900	45500	4920	2320	2280	2400	2440	107000
1903-04	3200	3270	3570	3690	3280	3570	2680	2890	2260	2030	2150	2020	34600
1904-05	2950	2970	3630	3700	17200	42700	6540	8980	2560	1990	1940	2380	97600
1905-06	2860	3810	4120	--	--	--	--	--	--	--	--	--	--
1906-30	--	--	--	--	--	--	--	--	--	--	--	--	--
1930-31	--	--	2120	2350	2230	2090	2040	1750	1370	1270	1300	1650	--
1931-32	1930	1960	2460	2430	40600	17000	9160	3010	1670	1320	1250	1450	84200
1932-33	1840	2140	2520	2920	2370	2400	2140	2020	1510	1380	1210	1480	23900
1933-34	1820	2170	2420	4390	2200	2180	1810	1690	1540	1210	1110	1290	23800

Monthly discharge, in acre feet, of MOJAVE RIVER at Lower Narrows.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1904-05	--	--	2830	2550	6060	35500	5130	7070	1540	1320	1590	1660	--
1905-06	2380	2770	2840	2890	2490	56300	17700	8170	3120	1420	1480	1900	103000
1906-07	2280	2580	9280	30800	37100	64900	39000	8520	2410	1410	1590	1860	202000
1907-08	2640	2680	2800	6140	11600	8940	4330	2510	1700	1700	1720	2050	48800
1908-09	2420	2460	2720	14000	31400	12600	15300	3190	1690	1480	1640	1780	90700
1909-10	2320	2960	25300	74300	7360	5790	7440	3900	2010	2080	1920	2160	138000
1910-11	2890	3120	3280	13600	23400	64200	9370	2590	1790	1840	1870	2230	130000
1911-12	3100	3260	3420	3420	3040	8290	11100	3860	1850	1960	1560	1820	47300
1912-13	3000	2980	3350	3350	3170	2840	2600	2160	2180	1860	1930	1900	31300
1913-14	2720	3030	3290	34000	68600	22200	9170	8640	2140	1890	1820	2150	160000
1914-15	2740	3070	3470	14000	51500	24100	17300	19900	3340	1860	1790	2260	145000

Table 40, continued

Monthly discharge, in acre feet, of MOJAVE RIVER at Point of Rocks.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1908-09	--	--	3110	11000	37100	11600	12600	1730	0	0	0	0	--
1909-10	958	2440	9130	74500	7610	5680	6890	3080	233	37.8	0	195	111000
1910-11	1470	2090	2780	13700	22200	60400	8790	1180	155	--	--	--	--

Monthly discharge, in acre feet, of MOJAVE RIVER near Hodge.
All records from U.S. Geological Survey.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1930-31	0	0	0	347	1210	608	151	0.6	0	0	0	0	2320
1931-32	0	0	331	1[illegible]	32400	15700	8270	1600	0	0	0	0	59500

Monthly discharge, in acre feet, of MOJAVE RIVER at Barstow.
All records from U.S. Geological Survey.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1930-31	0	0	0	0	0	0	0	0	0	0	0	0	0
1931-32	0	0	0	0	26300	9960	3940	105	0	0	0	0	40300
1932-33	0	0	0	0	0	0	0	0	0	0	0	0	0
1933-34	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 40, continued

Monthly discharge, in acre feet, of MOJAVE RIVER at Afton.
All records from U.S. Geological Survey.

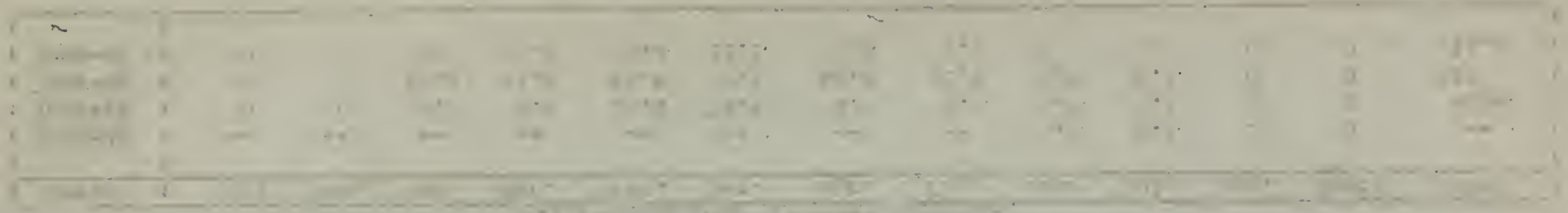
Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1929-30	--	--	--	116	92.8	102	78.6	81.8	56.5	38.7	36.9	51.8	--
1930-31	86.1	102	113	118	108	117	122	111	85.7	64.6	49.[illegible]	45.2	1120
1931-32	73.2	114	121	129	6500	701	115	67.0	31.7	13.5	15.	28.0	7910

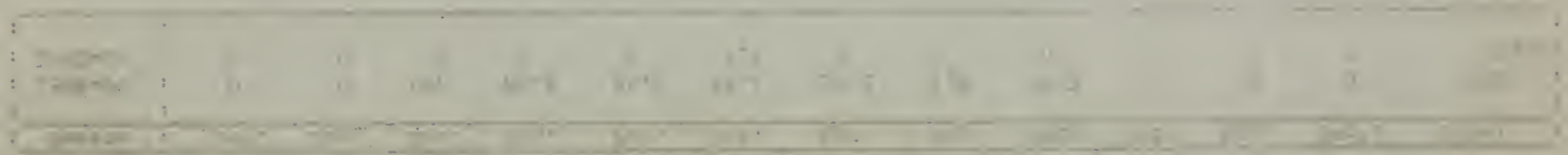
Monthly discharge, in acre feet, of PINE CREEK in NE¼ Sec. 10, T.2 N., R.2 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1894-95	0	0	127	20.4	25.7	36.3	10.2	1.5	0.1	0	0	0	221
1895-96	0	0	0	0	0	3.2	0	0	0	0	0	0	3.2

Monthly discharge, in acre feet, of ROCK CAMP CREEK in S½ Sec. 4, T.2 N., R.3 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1892-93	--	--	--	--	--	--	--	--	1.6	0.7	0	0	--
1893-94	0	0	0.8	6.9	10.4	24.4	3.7	2.0	0.7	0.5	0	0	49.4
1894-95	0	0	35.6	21.6	43.2	78.4	42.0	12.4	2.9	0.7	0	0	237
1895-96	0	0	0	0.4	0.4	11.1	2.0	0.5	0	0	0	0	14.4





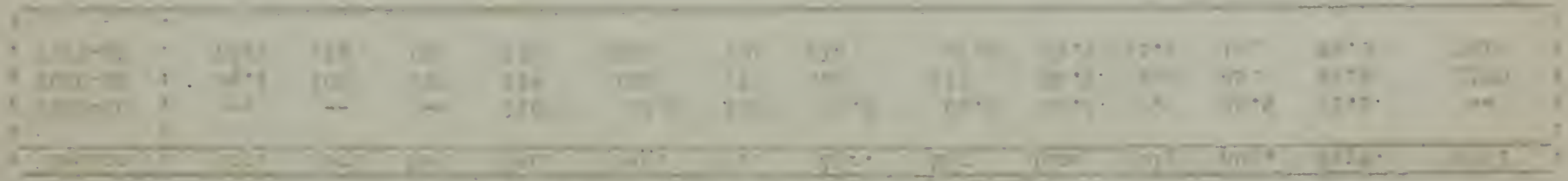


Table 40, continued

Monthly discharge, in acre feet, of ROCKY GULCH in SE¼ Sec. 5, T.2 N., R.3 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1892-93	--	--	--	--	--	--	--	--	--	0	0	0	--
1893-94	0	0	1.2	4.7	5.9	11.4	2.1	1.6	0.4	0	0	0	27.3
1894-95	0	0	22.0	13.5	21.1	36.9	11.9	2.7	0.4	0	0	0	109
1895-96	0	0	0	0.8	0.4	7.4	1.2	0	0	0	0	0	9.8

Monthly discharge, in acre feet, of SADDLE CREEK in NW¼ Sec. 7, T.2 N., R.3 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1893-94	--	--	--	28.6	22.1	26.0	0	0	0	0	0	0	--
1894-95	0	0	162	148	149	142	31.2	1.0	0	0	0	0	633
1895-96	0	0	0	0	0	6.5	0	--	--	--	--	--	--

Monthly discharge, in acre feet, of SHAKE CREEK in NE¼ Sec. 24, T.2 N., R.3 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1892-93	--	--	--	--	--	--	--	--	27.1	12.0	5.2	5.1	--
1893-94	5.5	9.7	15.7	27.4	25.3	65.5	48.2	24.7	12.8	2.6	1.0	0.5	239
1894-95	0.7	3.4	77.0	112	129	211	153	73.5	30.3	10.3	1.7	0.6	803
1895-96	7.0	13.7	14.8	18.7	16.1	33.8	26.6	16.6	5.0	--	--	--	--

Table 40, continued

Monthly discharge, in acre feet, of SHEEP CREEK in NE¼ Sec. 19, T.2 N., R.2 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1893-94	5.0	11.9	26.5	35.3	39.4	104	72.4	37.3	19.6	5.1	0.9	0	357
1894-95	0.2	1.8	113	172	208	468	246	109	44.3	15.5	3.8	1.0	1380
1895-96	2.8	11.1	18.1	23.3	22.4	53.9	40.9	25.0	9.6	--	--	--	--

Monthly discharge, in acre feet, of TUNNEL C in NW¼ Sec. 8, T.2 N., R.3 W., S.B.M.
All records from Arrowhead Company.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1894-95	0	0	15.9	7.9	8.8	14.7	9.4	4.8	1.0	0	0	0	62.5
1895-96	0	0	0	0	0	0.8	0	0	0	0	0	0	0.8

Table 40, continued

Monthly discharge, in acre feet, of WEST FORK OF MOJAVE RIVER above junction with East Fork.
All records from Arrowhead Company except seasons marked with * which are fr · U.S. Geological Survey.

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	y	Aug.	Sept.	Total
1904-05	--	--	1.2	240	6670	34200	3500	4470	555	8.7	0	0	--
1905-06	0	2.3	2.6	932	1220	29200	7540	4880	2750	219	3.4	1.7	46700
1906-07	2.1	4.4	8120	23100	15800	52300	12800	4150	1430	42.9	6.0	2.3	118000
1907-08	4.9	6.7	98.7	4930	7930	3690	1650	1300	48.3	4.9	1.5	0	19700
1908-09	2.0	2.5	4.8	7220	17800	6750	5290	1560	235	4.8	2.7	2.2	38900
1909-10	3.0	125	12500	31800	3600	2120	1890	351	8.3	6.1	3.7	2.2	52400
1910-11	3.5	3.4	3.2	7170	13000	32300	5010	2160	487	21.2	6.4	4.7	60200
1911-12	6.0	5.1	134	246	77.0	8990	6890	1620	77.7	6.0	3.8	2.8	18100
1912-13	3.0	3.5	2.7	210	5140	3780	1580	358	29.3	5.3	5.0	3.1	11100
1913-14	3.2	3.1	3.0	13500	36300	7560	3790	3030	752	12.8	5.8	3.4	65000
1914-15	2.8	2.7	461	6300	22200	6480	3210	6060	860	10.3	5.9	4.6	45600
1915-16	7.6	19.0	40.0	46100	14100	13400	4370	1690	260	11.0	3.9	2.6	80000
1916-17	3.3	105	731	1820	8120	5510	3600	1770	461	5.4	2.1	1.4	22100
1917-18	2.2	2.5	2.8	3.2	942	14600	1390	460	80.2	4.6	1.1	0	17500
1918-19	1.7	1.6	60.6	118	910	1800	821	122	7.1	2.0	0	0	3840
1919-20	0.4	2.0	817	235	5810	17200	8340	2310	554	6.0	2.6	0.8	35300
1920-21	1.3	2.5	129	3570	1730	6590	1410	6500	1130	14.3	2.7	0	21100
1921-29	--	--	--	--	--	--	--	--	--	--	--	--	--
*1929-30	--	--	--	--	123	4180	1080	3780	114	0	0	0	--
*1930-31	0	0	3.6	97.2	1160	43.0	1550	235	0	0	0	0	3090
*1931-32	0	0.4	2000	1440	20400	5980	1650	611	57.7	0	0	0	32100
*1932-33	0	0	0	1400	1340	3450	1240	526	4.8	0	0	0	7960
*1933-34	0	0	329	3480	361	240	15.9	0	0	0	0	0	4430

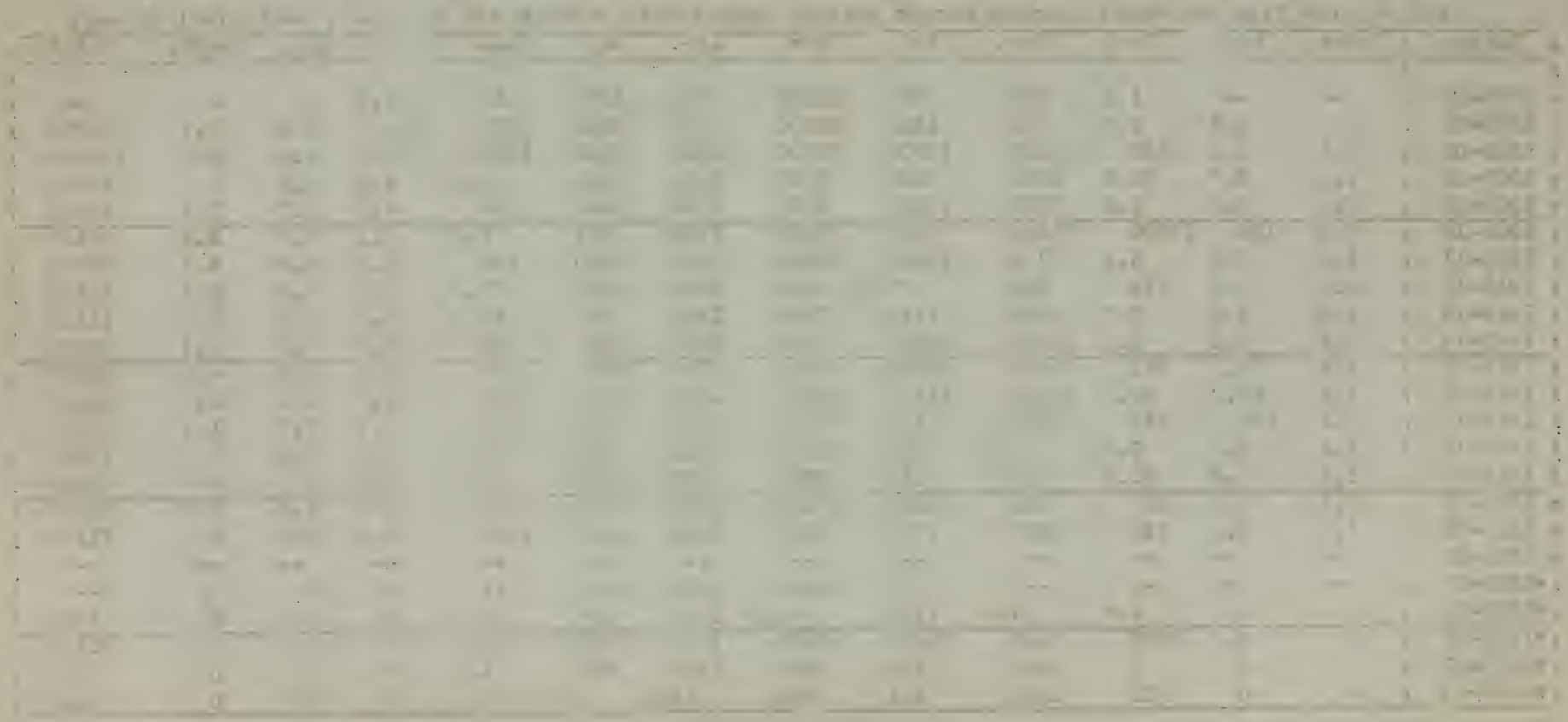


Table 42

MISCELLANEOUS DISCHARGE MEASUREMENTS
By courtesy of F. C. Finkle

Date	Stream	Locality	Discharge sec.-ft.
Mar. 27, 1905	Mojave River	South line of Rancho Verde, south line of Sec. 36, T.5 N., R.4 W., S.B.M.	168
Nov. 21, 1906	Mojave River	At Rancho Verde Upper Diversion, in Sec. 25, T.5 N., R.4 W., S.B.M.	11.1
Nov. 26, 1904	Mojave River	Upper Narrows (Victorville)	24.0
Mar. 17, 1905	Mojave River	Upper Narrows (Victorville)	1090
Nov. 21, 1906	Mojave River	Upper Narrows (Victorville)	39.0
Nov. 26, 1904	Mojave River	Lower Narrows	41.0
Mar. 13, 1905	Mojave River	Lower Narrows	[a] 15900
Mar. 27, 1905	Mojave River	Lower Narrows	234
Nov. 21, 1906	Mojave River	Lower Narrows	49.7
Mar. 13, 1908	Mojave River	Point of Rocks gaging station below Helendale	111
Mar. 13, 1905	Mojave River	(	[b] 3200
Mar. 24, 1905	Mojave River	(Point of lava mountains,	278
Nov. 22, 1906	Mojave River	(½ mile west of Barstow	3.0
Mar. 25, 1905	Mojave River	Below diversion of Mineola Cut, opposite Yermo	235
Mar. 13, 1905	Mojave River	(Last bridge [illegible] Union Pacific	[b] 1840
Mar. 26, 1905	Mojave River	(R.R., 40 miles below (Daggett	47.5
Nov. 20, 1906	Grass Valley Creek	Above Coles Diversion Dam	0.6
Nov. 27, 1904	East Fork Mojave River	Arrowhead gaging station	2.3
Mar. 28, 1905	East Fork Mojave River	½ mile above junction with West Fork	165
Nov. 20, 1906	East Fork Mojave River	Arrowhead gaging station	7.8
Nov. 27, 1904	West Fork Mojave River	Arrowhead gaging station	0
Mar. 13, 1905	West Fork Mojave River	300-500 feet below Arrowhead gaging station	[c] 13500
Mar. 28, 1905	West Fork Mojave River	Arrowhead gaging station	96.7
Nov. 20, 1906	West Fork Mojave River	Arrowhead gaging station	0.4
Dec. 21, 1906	West Fork Mojave River	200 feet above Arrowhead gaging station	27.2

Table 42, continued

MISCELLANEOUS DISCHARGE MEASUREMENTS

Date	Stream	Locality	Discharge sec.-ft.
Nov. 27, 1904	Hesperia Ditch	Near waste gat in Sec. 7, T.3 N., R.3 W., S.B.M.	2.5
Mar. 28, 1905	Hesperia Ditch	Opposite forks of Mojave River in Sec. 18, T.3 N., R.3 W., S.B.M.	1.9
Nov. 20, 1906	Hesperia Ditch	Near waste gate in Sec. 7, T.3 N., R.3 W., S.B.M.	2.7
Nov. 21, 1906	Rancho Verde Diversion	Flume from Slough on west side of Rancho Verde at bridge in Sec. 14, T.5 N., R.4 W., S.B.M.	1.3
Nov. 22, 1906	Cyanide Plant Pumping Diversion from Mojave River	At culvert in dam at Cyanide Plant about 1 mile above Barstow.	0.8
Nov. 22, 1906	Inflow to Mojave River	Waste water from Cyanide Plant entering river.	0.1
Mar. 25, 1905	Mineola Cut Diversion from Mojave River	Opposite Yermo	2.5

[a] Mean of three sections to high water marks calculated by Kutter's Formula.
[b] Calculated from high water marks by Kutter's Formula.
[c] Mean of six sections to high water marks calculated by Kutter's Formula.

Table 43

Records of Water Levels at Wells

The wells for which water level records are presented are in or near the area influenced by the Mojave River. Unless otherwise noted the measurements were made by the Division of Water Resources or by the United States Geological Survey.

Table 43

U-1 Olive, formerly West

Location and description: Southeast corner of NW¼, of NE¼, Sec. 13, T.3 N., R.4 W.S.B.B.& M, on top of bluff at west side of road from West Fork saddle to bottom of McInnis crossing.
Use: Domestic.
Reference Point: Top of 2" x 12" board cover on well at ground level.
Elevation of reference point: 3012.5.

Date	Dist. R.P. to water surface	Date	Dist. R.P. to Water surface
May 15, 1922	*69.6	Mar. 4, 1931	79.0
Jan. 11, 1923	*68.6	May 1, 1931	78.0
Sept. 27, 1923	*71.9	Nov. 13, 1931	88.7
Oct. 18, 1923	*69.7	Jan. 7, 1932	81.9
Dec. 6, 1929	84.9	Feb. 20, 1932	80.1
Mar. 5, 1930	80.5	Mar. 18, 1932	79.3
Apr. 1, 1930	79.3	June 9, 1932	77.9
Apr. 21, 1930	78.7	Aug. 9, 1932	78.8
Dec. 11, 1930	81.0	Nov. 3, 1932	84.8
Jan. 27, 1931	79.8	Dec. 14, 1933	89.7

* Measurement from W. P. Rowe.

U-2 A. M. Page

Location and Description: Middle of south line SE¼, Sec. 12, T. 3 N, R.4 W., S. B.B.& M., near orange colored houses between edge of bluff and road to Lake Arrowhead.
Use: Domestic and Irrigation.
Reference Point: Concrete floor level at average ground elevation.
Elevation of reference point: 3012.1.

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 6, 1929	92.8	Nov. 13, 1931	94.0
Jan. 27, 1931	87.8	Jan. 7, 1932	89.9
Mar. 4, 1931	86.8	Feb. 20, 1932	87.1
May 1, 1931	85.6	Mar. 18, 1932	86.0
July 28, 1931	87.1	Aug. 9, 1932	84.8

Table 43, continued

U-3 Martin McInnis.

Location and Description: Near northwest corner of SW¼, Sec. 7, T.3 N., R.3 W., S.B.B.& M., on east side of Mojave River at Upper or McInnis crossing, 12 feet west of ditch.
Use: Domestic.
Reference Point: Top of 12 inch spiral wrap casing level with average ground.
Elevation of reference point: 2953.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 26, 1917	*7.5	May 1, 1931	9.4
Jan. 15, 1930	29.7	July 28, 1931	17.4
Mar. 5, 1930	12.0	Oct. 1, 1931	26.7
Mar. 17, 1930	11.2	Nov. 13, 1931	30. dry
Mar. 22, 1930	9.6	Jan. 15, 1932	12.2
Apr. 14, 1930	7.3	Feb. 19, 1932	7.4
Apr. 21, 1930	8.2	Mar. 18, 1932	7.4
Apr. 30, 1930	7.6	Apr. 19, 1932	7.2
Jan. 27, 1931	19.3	July 7, 1932	8.2
Feb. 12, 1931	13.4	Nov. 3, 1932	24.8
Feb. 20, 1931	11.9		

* Mojave River Commission Report.

U-4

Location and Description: Near center of SE¼, Sec. 12, T.3 N., R.4 W., S.B.B.& M. On west side of Mojave River just above McInnis crossing.
Use: Stock windmill.
Reference Point: Top of 2" x 12" cover on concrete pit 36 inches in diameter.
Elevation of reference point: 2955.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 6,1929	25.9 dry	May 1, 1931	8.4
Mar. 8, 1930	8.4	Aug. 4, 1931	20.8
Apr. 1, 1930	8.3	Oct. 1, 1931	27. dry
Apr. 12, 1930	8.1	Jan. 7, 1932	8.8
Apr. 21, 1930	8.5	Feb. 20, 1932	7.6
Dec. 11, 1930	15.1	Mar. 18, 1932	7.8
Jan. 27, 1931	14.3	June 9, 1932	7.5
Feb. 20, 1931	8.6	Aug. 9, 1932	14.9
Mar. 4, 1931	8.7	Nov. 3, 1932	25. dry

Table 43, continued

U-4A William P. Lang

Location and Description: Near south line of SE¼, Sec. 1, T.3 N., R.4 W., S.B.B.& M. West of U-4 and near county road.
Use: Irrigation.
Reference Point: Top of 2 inch curb at southwest corner 2 feet above ground.
Elevation of reference point: 2942.1.

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 7, 1932	17.2	June 9, 1932	16.4
Feb. 20, 1932	12.4	Aug. 4, 1932	21.3
Mar. 18, 1932	14.3	Nov. 29, 1932	48.7

U-5

Location and Description: Near center of east line of SW¼, Sec. 1, T.3 N., R.4 W., S.B.B.& M., at foot of hill near Hendrick's north line.
Use: Test well.
Reference Point:
Elevation of reference point: 2929.1

Date	Dist. R.P. to water surface	Date	Dist R.P. to water surface
Jan. 31, 1913	* 27.2	Jan. 27, 1931	26.2 dry
May 30, 1917	* 12.1		

* Arrowhead Reservoir and Power Co. records. Lowest and highest observations (Mar. 1909 - Feb. 1920). P.V.U.S.L. Testwell No. 1.

Table 43, continued

U-6 M. Spraeger

Location and Description: Near center of east line of SW¼ of NW¼, Sec. 6, T.3 N., R.3 W., S.B.B.& M. East side of Mojave River at headgate of Laughlin Ditch.
Reference Point: Top of 12 inch casing.
Elevation of reference point: 2929.3.

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 15, 1915	* 6.5	Feb. 20, 1931	3.5
Dec. 28, 1917	* 28.3	May 1, 1931	3.4
Dec. 1929	27.0	Aug. 4, 1931	26.7
Apr. 2, 1930	3.0	Oct. 8, 1931	27. dry
Apr. 14, 1930	2.9	Jan. 15, 1932	4.5
Apr. 21, 1930	3.0	Feb. 19, 1932	3.0
Apr. 30, 1930	2.9	Mar. 18, 1932	2.8
Jan. 27, 1931	27. dry	Apr. 19, 1932	2.8
Feb. 12, 1931	3.9	July 15, 1932	10.7

* Arrowhead Reservoir and Power Co. records. Highest and lowest observations (Feb. 1905 - Apr. 1930). Formerly Old Welsh Place.

U-7 Booth and Argus

Location and Description: Near center of east line of NE¼ of NW¼, Sec. 1, T.3 N., R.4 W., S.B.B.& M. Old pumping plant in hole on east side of road to Lake Arrowhead, above concrete house at bend in road.
Reference Point: Hole in suction for vacuum gage 5.0 feet below average ground.
Elevation of reference point: 2921.2.

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 16, 1930	26.9	Jan. 27, 1931	18.2
Mar. 17, 1930	28.3	Mar. 4, 1931	19.0
Mar. 22, 1930	28.0	May 1, 1931	19.1
Apr. 14, 1930	13.4	July 28, 1931	14.5

Table 43, continued

U-7 A

Location and Description: In NW¼, Sec. 1, T.3 N., R.4 W., S.B.B.& M. Windmill on hill at house on west side of road.
Use: Domestic.
Reference Point: Edge of automobile hood around casing level with top of iron foundation legs of windmill, 1.6 feet above ground.
Elevation of reference point: 2948.8.

Date	Dist. R.P. to water surface	Date	Dist R.P. to water surface
Jan. 27, 1931	58.4	Feb. 20, 1932	42.6
May 1, 1931	50.7	May 18, 1932	38.3
Jan. 7, 1932	57.0		

U-8 Laughlin

Location and Description: Near northwest corner of SE¼, Sec. 31, T.4 N., R.3 W., S.B.B.& M.
Reference Point: Top of 14 inch casing with concrete plug 2 feet above average ground.
Elevation of reference point: 2919.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 28, 1905	* 44.3	Mar. 3, 1931	36.2
June 3, 1909	* 14.5	May 1, 1931	37.0
Jan. 18, 1930	43.2	July 28, 1931	34.9
Jan. 27, 1931	41.2	Jan. 15, 1932	38.9

* Lowest and highest observations (Dec. 1904 - Mar. 1914) from records of Arrowhead Reservoir Co.

Table 43, continued

U-16 N. F. Marsh

Location and Description: Near center of south line of NW¼ of SE¼, Sec. 20, T.4 N., R.3 W., S.B.B.& M. In pump house north of Hesperia - Bear Valley Road.
Use: Irrigation and domestic.
Reference Point: Outer edge of 1½ inch water line at union.
Elevation of reference point: 2971.0

Date	Dist. R.P. to water surface	Date	Dist. R. P. to water surface
Jan. 28, 1931	121.4	Mar. 30, 1932	121.5
Mar. 4, 1931	122.2	May 5, 1932	118.1
July 28, 1931	123.8	July 15, 1932	115.1
Jan. 15, 1932	124.8	Sept. 13, 1932	116.2
Feb. 19, 1932	124.6	Mar. 3, 1933	120.1
Mar. 18, 1932	122.6	Dec. 21, 1933	121.4

U-17 W. O. Wade

Location and Description: In southwest corner of NE¼ of NE¼, Sec. 21, T.4 N., R.3 W., S.B.B.& M.
Use: Not used.
Reference Point: Top of curb at ground level.
Elevation of reference point: 3100.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Mar. 1, 1917	* 242.0	Mar. 25, 1932	256.8
Jan. 9, 1923	** 247.6	Apr. 29, 1932	255.6
Jan. 31, 1930	255.7	June 2, 1932	254.1
Dec. 17, 1930	255.0	July 20, 1932	253.0
Mar. 10, 1931	255.7	Sept. 13, 1932	253.0
May 11, 1931	256.6	Mar. 2, 1933	254.6
Aug. 4, 1931	257.2	Dec. 21, 1933	255.4
Jan. 20, 1932	258.0	May 17, 1934	256.5

* Mojave River Commission Report.
** Measurement from W. P. Rowe.

Table 43, continued

U-18 M. Rudelson

Location and Description: In southeast corner of Sec. 10, T.4 N., R.3 W., S. B. B. & M.
Use: Irrigation and Domestic.
Reference Point: Top of concrete pump base at hole in tin at southeast corner 1.4 feet above floor.
Elevation of reference point: 3092.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 25, 1930	251.0	Aug. 4, 1931	252.5
Dec. 17, 1930	251.7	Jan. 20, 1932	252.4
Jan. 27, 1931	251.4	Mar. 30, 1932	252.6
Mar. 10, 1931	251.8		

U-18 A

Location and Description: In northeast corner of SE$\frac{1}{4}$ of SE$\frac{1}{4}$, Sec. 10, T.4 N., R.3 W., S.B.B.& M. One quarter mile northeast of U-18.
Use: Not used.
Reference point: Top of 12 inch casing 1.0 foot above ground.
Elevation of reference point: 3078.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 13, 1931	238.6	June 2, 1932	239.1
Aug. 4, 1931	238.0	July 28, 1932	239.2
Jan. 26, 1932	239.0	Mar. 3, 1933	238.5
Mar. 30, 1932	239.2		

U-19 E. D. S. Pope

Location and Description: Near southwest corner of NW$\frac{1}{4}$ of SW$\frac{1}{4}$, Sec. 1, T. 4 N., R. 3 W., S.B.B.& M.
Reference Point: Top of concrete slab, 0.4 feet below ground.
Elevation of reference point: 3044.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 31, 1930	202.7	Mar. 30, 1932	203.7
Dec. 17, 1930	202.4	Apr. 29, 1932	203.2
Mar. 11, 1931	202.8	June 2, 1932	202.6
May 13, 1931	203.5	July 28, 1932	202.4
Aug. 4, 1931	204.2	Mar. 2, 1933	202.4
Jan. 26, 1932	204.2		

Table 43, continued

U-20 H. E. Walsh

Location and Description: Near southwest corner of Sec. 6, T. 4 N., R.2 W., S. B. B. & M.
Use: Not used.
Reference Point: Top concrete floor of pump house.
Elevation of reference point: 3133.2

Date	Dist. R. P. to water surface	Date	Dist. R.P. to water surface
Feb. 13, 1923	*283.5	Aug. 4, 1931	289.4
Jan. 31, 1930	287.1	Jan. 26, 1932	289.4
Dec. 17, 1930	287.7	Apr. 29, 1932	289.4
Mar. 3, 1931	289.0	July 28, 1932	289.5
May 13, 1931	289.0		

* Measurement from W. P. Rowe.

U-21 A. B. Sheridan

Location and Description: In southwest corner of Sec. 5, T.4 N., R.2 W., S. B. B. & M.
Use: Not used.
Reference Point: Top of 12" casing 2.5 feet above ground.
Elevation of reference point: 3085.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 13, 1923	*232.8	Aug. 4, 1931	236.7
Jan. 31, 1930	235.7	Jan. 26, 1932	237.1
Dec. 17, 1930	236.3	Apr. 29, 1932	237.2
Mar. 3, 1931	236.5	July 28, 1932	237.2
May 13, 1931	236.6	Mar. 2, 1933	237.2

* Measurement from W. P. Rowe.

U-22 A. L. Martin

Location and Description: Near south line of SE¼ of NE¼, Sec. 5, T.4 N., R.2 W., S.B.B.& M.
Use: Not used.
Reference Point: Top of casing at ground level.
Elevation of reference point: 3043.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 31, 1930	181.8	Jan. 26, 1932	182.8
Dec. 17, 1930	181.9	Apr. 29, 1932	182.4
Mar. 3, 1931	181.8	July 28, 1932	182.2
May 13, 1931	181.9	Feb. 17, 1933	182.4
Aug. 4, 1931	182.0		

Table 43, continued

U-23 C. W. McLester

Location and Description: Near center of south line of NE¼, Sec. 19, T.4 N., R.3 W., S.B.B.& M.
Reference Point: Top of 10 inch casing under clamps and galvanized iron, 0.5 feet below concrete curb at average ground.
Elevation of reference point: 2890.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 26, 1917	* 22.7	Jan. 15, 1932	38.2
Jan. 28, 1931	34.8	Feb. 19, 1932	28.3
Feb. 12, 1931	35.1	Apr. 19, 1932	18.8
Feb. 20, 1931	35.1	June 2, 1932	17.8
May 1, 1931	35.9	Sept. 13, 1932	27.6
July 28, 1931	37.0	Nov. 3, 1932	30.0

* Mojave River Commission Report.

U-25 M. Hughes

Location and Description: In northeast corner of SW¼, Sec. 17, T.4 N., R.3 W., S.B.B.& M.
Reference Point: Bottom of clamp across top of concrete curb at ground level.
Elevation of reference point: 2926.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 26, 1917	*78.2	July 28, 1931	93.9
Jan. 27, 1931	85.2	Jan. 15, 1932	88.5
Mar. 10, 1931	85.6	June 2, 1932	81.6
May 7, 1931	86.3		

* Mojave River Commission Report.

Table 43, continued

U-26

Location and Description: Near northwest corner of SW¼, Sec. 17, T.4 N., R.3 W., S.B.B.& M., along west side of road from Forks to Narrows.
Use: Test well.
Reference Point: Top of 2 inch coupling on well under plug 0.4 feet above ground.
Elevation of reference point: 2865.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 28, 1905	* 25.6	Mar. 18, 1932	22.9
May 30, 1916	* 8.6	Apr. 19, 1932	19.9
Aug. 9, 1922	** 10.0	May 13, 1932	18.2
Jan. 9, 1923	** 13.8	June 2, 1932	17.2
Jan. 18, 1930	25.3	Sept. 13, 1932	19.7
Dec. 11, 1930	23.9	Nov. 3, 1932	21.1
Jan. 28, 1931	24.5	Dec. 21, 1933	24.9
Feb. 12, 1931	24.7	May 17, 1934	25.2
Feb. 20, 1931	24.8		

* Lowest and highest observations (Jan. 1905 - Dec. 1920) from records of Arrowhead Reservoir and Power Co. Test well No. 8.
** Measurement from W. P. Rowe.

U-27

Location and Description: Near northwest corner of NE¼ of SW¼, Sec. 18, T.4 N., R.3 W., S.B.B.& M., 300 feet south and 20 feet east of Evans southeast fence corner.
Use: Test well.
Reference Point: Top of 2 inch coupling, 0.3 feet above ground.
Elevation of reference point: 2863.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 28, 1905	* 28.4	July 28, 1931	28.0
May 13, 1911	* 7.0	Oct. 8, 1931	29.2
Jan. 18, 1930	27.8	Feb. 19, 1932	10.5
Apr. 3, 1930	15.3	Mar. 25, 1932	7.7
Jan. 28, 1931	26.1	Sept 13, 1932	18.7
Feb. 12, 1931	26.5	Nov. 3, 1932	21.0
Feb. 20, 1931	26.7	Dec. 21, 1933	27.3
May 1, 1931	25.8	May 17, 1934	26.2

* Lowest and highest observations (Jan. 1905 - Dec. 1930) from records of Arrowhead Reservoir and Power Co. Test well No. 9.

Table 43, continued

U-28 C. O. Evans

Location and Description: Near southeast corner of SW¼ of NW¼, Sec. 18, T.4 N., R.3 W., S.B.B.& M., east side of reservoir.
Use: Irrigation.
Reference Point: Hole in pump base for air line 1.0 foot above ground.
Elevation of reference point: 2867.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 18, 1930	29.8	Oct. 8, 1931	31.8
Jan. 28, 1931	29.5	Jan. 15, 1932	31.5
Feb. 12, 1931	29.2	Feb. 19, 1932	27.0
Feb. 20, 1931	29.3	Mar. 25, 1932	22.6
May 1, 1931	30.3	May 5, 1932	21.8
July 28, 1931	31.4	Sept. 13, 1932	25.0

U-28 A

Location and Description: Near center of south line of NW¼, Sec. 18, T.4 N., R.3 W., S.B.B.& M. 5 foot concrete pit with windmill south of reservoir.
Use: Domestic.
Reference Point: At ground.
Elevation of reference point: 2867.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 18, 1930	26.2	Oct. 8, 1931	26.7
Jan. 28, 1931	25.4	Jan. 15, 1932	27.2
Feb. 12, 1931	24.8	Feb. 19, 1932	13.0
Feb. 20, 1931	25.0	Mar. 25, 1932	7.6
May 1, 1931	* 28.5	May 5, 1932	7.0
July 28, 1931	* 27.0		

* Windmill pumping.

Table 43, continued

U-29 Zeirer

Location and Description: Near southwest corner of NW¼ of NW¼, Sec. 17, T.4 N., R.3 W., S.B.B.& M.
Use: Domestic.
Reference Point: Top of ragged 14 inch casing 2.7 feet above top of casing joint at ground level.
Elevation of reference point: 2864.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 25, 1917	*23.1	Mar. 24, 1932	28.9
Dec. 11, 1930	28.6	Apr. 19, 1932	27.2
Feb. 17, 1931	29.2	June 2, 1932	25.1
Feb. 20, 1931	29.2	July 20, 1932	25.7
May 1, 1931	29.9	Sept. 13, 1932	25.4
July 28, 1931	31.2	Nov. 3, 1932	26.1
Jan. 15, 1932	31.5	May 17, 1934	29.6
Feb. 19, 1932	31.1		

* Mojave River Commission Report.

U-30

Location and Description: Near center of east line of SW¼ of SE¼, Sec. 18, T.4 N., R.3 W., S.B.B.& M.
Reference Point:
Elevation of reference point: 2870.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 1, 1931	24. dry	May 5, 1932	23.5

U-31

Location and Description: In center of east line of SE¼ of SW¼, Sec. 5, T.4 N., R.3 W., S.B.B.& M.
Reference Point: Top of iron clamp on timbers across casing in pit 3.2 feet below concrete at ground level.
Elevation of reference Point: 2999.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 27, 1931	168.9	Mar. 24, 1932	169.6
Mar. 6, 1931	169.0	June 2, 1932	168.3
May 7, 1931	169.3	July 20, 1932	169.0
Aug. 4, 1931	170.0		

Table 43, continued

U-32 Marianna Ranch

Location and Description: In southwest corner of Sec. 9, T. 4 N., R.3 W., S.B.B.& M.
Use: Irrigation.
Reference Point: Top of concrete curb on east at average ground level.
Elevation of reference point: 3034.5

Date	Dist. R.P. to water surface	Date	Dist.P.P. to water surface
Mar. 1, 1917	*186.2	Jan. 27, 1931	193.9
		July 28, 1931	197.0

* Mojave River Commission Report.

U-33 Old Hunt Place

Location and Description: In southeast corner of SW¼, Sec. 10, T.4 N., R.3 W., S.B.B.& M.
Use: Domestic.
Reference Point: Edge of opening over "M" in Pomona on north side at air line 0.5 feet above concrete pump base at ground level.
Elevation of reference point: 3061.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 27, 1931	221.3	May 13, 1931	221.5
Mar. 10, 1931	221.3	Aug. 4, 1931	221.8

U-34 C. G. Lewis

Location and Description: In southwest corner of NW¼ of SE¼, Sec. 7, T.4 N., R.3 W., S.P.B.& M.
Use: Irrigation.
Reference Point: Top of old wood curb 0.15 feet below new pump base at ground level.
Elevation of reference point: 2857.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 26, 1922	*11.1	Jan. 15, 1932	25.8
Jan. 18, 1930	24.0	Feb. 19, 1932	24.5
Jan. 28, 1931	23.5	Mar. 25, 1932	21.7
Feb. 12, 1931	23.6	May 13, 1932	18.8
Feb. 20, 1931	23.7	July 20, 1932	19.4
May 1, 1931	24.4	Nov. 3, 1932	21.2
July 28, 1931	25.5	Dec. 21, 1933	24.1
Oct. 8, 1931	25.9		

* Mojave River Commission Report.

Table 43, continued

U-35 Carden

Location and Description: Near center of west line of Sec. 7, T.4 N., R.3 W., S.B.B.& M.
Reference point: Top of concrete curb on west side at ground level, under discharge.
Elevation of reference point: 2853.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 30, 1931	22.8	Nov. 17, 1931	24.7
Feb. 14, 1931	22.7	Feb. 19, 1932	21.0
Feb. 20, 1931	22.7	Mar. 25, 1932	18.7
May 7, 1931	23.8	May 5, 1932	15.9

U-36

Location and Description: Near center of north line of NE¼, Sec. 12, T.4 N., R.4 W., S.B.B.& M.
Use: Test well.
Reference Point:
Elevation of reference point: 2847.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 28, 1905	* 23.2	Apr. 5, 1907	* 11.4

* Lowest and highest observations (Jan. 1905 - April 1910) from records of Arrowhead Reservoir and Power Co. Test well No. 3, replaced by Test well No. 3 A in April, 1910.

U-37

Location and Description: Near northwest corner of SE¼ of SE¼, Sec.1, T.4 N., R.4 W., S.B.B.& M.
Use: Irrigation.
Reference Point: Edge of opening in pump head 0.95 feet above base of pump and 2.5 feet above average ground level.
Elevation of reference point: 2843.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 23, 1930	18.6	Jan. 15, 1932	19.7
Jan. 28, 1931	19.1	Feb. 19, 1932	16.6
Feb. 14, 1931	19.1	Mar. 25, 1932	15.0
Feb. 20, 1931	19.1	Nov. 3, 1932	17.3
Nov. 18, 1931	20.2	Dec. 21, 1933	19.1

Table 43, continued

U-42

Location and Description: Near center of north line of NE¼, Sec. 1, T.4 N., R.4 W., S.B.B.& M.
Use: Test well.
Reference Point: Top of well.
Elevation of reference point: 2822.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 2, 1905	* 11.8	Jan. 31, 1916	* 6.4

* Lowest and highest observations (Dec. 1904 - Dec. 1920) from records of Arrowhead Reservoir and Power Co. Test well No. 6

U-43 A. W. Phillips

Location and Description: Near northeast corner of NW¼ of NW¼, Sec. 6, T.4 N., R.3 W., S.B.B.& M.
Use: Domestic.
Reference Point: Crack in windmill foundation 0.5 feet above concrete block at casing level and 1.5 feet above ground.
Elevation of reference point: 2873.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 24, 1917	*51.5	Feb. 19, 1932	56.9
Jan. 25, 1930	56.3	May 27, 1932	** 56.3
Jan. 26, 1931	56.2	July 20, 1932	56.2
Feb. 17, 1931	56.1	Sept. 13, 1932	56.3
May 7, 1931	56.8	Oct. 8, 1932	56.2
July 28, 1931	**59.0	Nov. 3, 1932	55.8
Nov. 18, 1931	57.7	Dec. 21, 1933	56.3
Jan. 7, 1932	57.3	May 17, 1934	** 57.6

* Mojave River Commission Report.
** Windmill pumping.

Table 43, continued

U-44 A. J. Lintner

Location and Description: Near northeast corner NW¼ of NE¼, Sec. 6, T.4 N., R.3 W., S.B.B.& M.
Use: Domestic.
Elevation of reference point: 2872.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 26, 1931	54.2	Feb. 19, 1932	55.2
Feb. 17, 1931	54.2	Mar. 24, 1932	54.4
May 7, 1931	55.2	May 27, 1932	54.1
Aug. 4, 1931	56.6	Sept. 13, 1932	54.5
Nov. 18, 1931	55.7	Nov. 3, 1932	53.8
Jan. 7, 1932	55.4	May 17, 1934	55.5

U-45 Ihmsen

Location and Description: Near southeast corner NE¼ of SW¼, Sec. 32, T.5 N., R.3 W., S.B.B.& M.
Use: Domestic and irrigation.
Reference Point: Top of coupling on ¼ inch air line, level with lower floor which is 1.0 foot below main floor level.
Elevation of reference point: 2995.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 27, 1931	169.9		

U-46 Conwell

Location and Description: Near southeast corner of NE¼ of SE¼. Sec.33, T.5 N., R.3 W., S.B.B.& M.
Use: Domestic.
Reference Point: Top of edge of opening in pump head over "M" in Pomona 0.31 feet above top of casing which is 0.6 feet above ground.
Elevation of reference point: 2986.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 26, 1931	150.2	Aug. 4, 1931	152.0
Mar. 4, 1931	150.2	Jan. 7, 1932	151.7
May 12, 1931	151.4	Mar. 24, 1932	150.4

Table 43, continued

U-47 Pacific Farm Lands Co., formerly E. P. Deweys.

Location and Description: Near southeast corner of NW¼ of NW¼, Sec. 31, T.5 N., R.3 W., S.B.B.& M.
Use: Domestic and irrigation.
Reference Point: Top of hole in pump base on north side 0.33 feet above floor level and 1.33 feet above ground level.
Elevation of reference point: 2855.7

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 17, 1905	* 27.3	Dec. 20, 1930	30.6
Feb. 10, 1905	* 27.0	Jan. 30, 1931	30.6
Feb. 22, 1905	* 26.7	Mar. 12, 1931	30.3
Mar. 2, 1905	* 26.4	May 7, 1931	31.3
Mar. 18, 1905	* 26.8	July 28, 1931	32.2
Apr. 8, 1905	* 26.8	Jan. 15, 1932	32.0
Feb. 24, 1917	** 24.8	Mar. 24, 1932	29.6
Feb. 1, 1930	29.9	July 20, 1932	29.9

* From Arrowhead Reservoir and Power Co. records corrected for change in reference point.
** Mojave River Commission Report.

U-48

Location and Description: Near southwest corner of SE¼ of SW¼, Sec. 30, T.5 N., R.3 W., S.B.B.& M.
Reference Point: Northeast corner at top of concrete floor around pit 0.2 feet above ground.
Elevation of reference point: 2850.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 24, 1917	* 55.3	Jan. 7, 1932	49.5
Feb. 1, 1930	49.0	Mar. 24, 1932	49.0
Dec. 20, 1930	49.2	June 2, 1932	49.2
Mar. 12, 1931	48.8	July 20, 1932	49.4

* Mojave River Commission Report.

Table 43, continued

U-49 Formerly Foster's Well

Location and Description: Near center of south line of NE¼ of NE¼, Sec. 25, T.5 N., R.4 W., S.B.B.& M.
Use: Domestic and Irrigation.
Reference Point: Top of 2" x 6" plank at north edge of pit 1.25 feet above average ground, to and including April 8, 1905; then 12" x 12" stringer on north side of pit.
Elevation of reference point: 2838.5 to and including April 8, 1905, then 2837.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 17, 1905	* 50.2	Apr. 8, 1905	* 49.8
Feb. 10, 1905	* 50.0	May 26, 1922	* 48.0
Feb. 23, 1905	* 50.6	Jan. 25, 1930	50.6
Mar. 2, 1905	* 50.2	Jan. 30, 1931	50.6
Mar. 18, 1905	* 50.0	Nov. 18, 1931	51.2

* From Arrowhead Reservoir and Power Co. records.
** Measurement from W. P. Rowe.

U-50 Clarke Shaw

Location and Description: Near center of east line of NE¼ of NW¼, Sec. 24, T.5 N., R.4 W., S.B.B.& M.
Reference Point: Top 16 inch casing 0.3 feet above ground.
Elevation of reference point: 2816.7

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 17, 1917	*53.3	Jan. 7, 1932	53.4
Feb. 1, 1930	53.3	Mar. 22, 1932	53.2
Dec. 20, 1930	53.4	May 27, 1932	53.4
May 7, 1931	53.3	Nov. 2, 1932	53.5
July 28, 1931	53.7		

* Mojave River Commission Report.

Table 43, continued

U-51 R. O. Sperry

Location and Description: In northeast corner of SE¼, Sec. 26, T.5 N., R.3 W., S.B.B.& M.
Use: Not used.
Reference Point: Top of 2" x 12" cover on pit 0.2 feet above ground.
Elevation of reference point: 2938.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Mar. 2, 1917	* 97.8	May 14, 1931	99.9
Feb. 13, 1923	** 98.2	Aug. 3, 1931	100.0
Jan. 31, 1930	99.5	Apr. 29, 1932	100.2
Jan. 30, 1931	99.9	Feb. 17, 1933	100.6

* Mojave River Commission Report.
** Measurement from W. P. Rowe.

U-52

Location and Description: Near center of west line of NW¼, Sec. 24, T.5 N., R.3 W., 20 feet north of old dug well and 40 feet north of rubble masonry reservoir.
Use: Not used.
Reference Point: Top of un-riveted 12 inch casing 1.3 feet above ground.
Elevation of reference point: 2920.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 30, 1931	82.3	Apr. 29, 1932	82.6
May 14, 1931	82.1	Feb. 17, 1933	82.8
Aug. 3, 1931	82.4		

U-52 A

Location and Description: Near center of west line of SE¼, Sec. 14, T.5 N., R.3 W., S.B.B.& M. ½ mile northwest of U-52.
Reference Point: Top of 4" x 4" on east side under two 2" x 10" timbers.
Elevation of reference point: 2915.7

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Mar. 3, 1917	* 80.0	Aug. 3, 1931	79.1
Jan. 30, 1931	78.9	Apr. 29, 1932	79.2
May 14, 1931	79.0		

* Mojave River Commission Report.

Table 43, continued

U-53

Location and Description: Near northwest corner of SW¼ of SE¼, Sec. 22, T.5 N., R.3 W., S.B.B.& M.
Reference Point: Top of wood curb on north side 0.3 feet above ground.
Elevation of reference point: 2938.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Mar. 2, 1917	*101.9	May 14, 1931	103.7
Feb. 13, 1923	**102.3	Aug. 3, 1931	103.8
Jan. 31, 1930	103.4	Apr. 29, 1932	104.1
Jan. 30, 1931	103.6		

* Mojave River Commission Report.
** Measurement from W. P. Rowe.

U-54 F. A. Fletcher

Location and Description: In northeast corner of SE¼, Sec. 9, T.5 N., R.3 W., S.B.B.& M.
Use: Not used.
Reference Point: Top of 7 inch casing 0.5 feet above ground.
Elevation of reference point: 2909.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 28, 1917	*77.9	May 14, 1931	76.4
Jan. 31, 1930	76.2	Aug. 3, 1931	76.5
Dec. 17, 1930	76.3	Apr. 29, 1932	76.7
Jan. 30, 1931	76.3		

* Mojave River Commission Report.

U-55

Location and Description: Near center of west line of SE¼, Sec. 9, T.5 N., R.3 W., S.B.B.& M.
Reference Point: Top 12" x 12" timber across pit 1.0 foot above ground.
Elevation of reference point: 2919.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Mar. 5, 1917	*90.1	May 14, 1931	89.0
Jan. 31, 1930	88.8	Aug. 3, 1931	89.0
Dec. 17, 1930	88.9	Apr. 29, 1932	89.1
Jan. 30, 1931	88.9	Feb. 17, 1933	89.2

* Mojave River Commission Report.

Table 43, continued

U-56

Location and Description: Near center of SW¼ of SW¼, Sec. 8, T.5 N., R.3 W., S.B.B.& M.
Reference Point: Top of old concrete base south of well and also level with top of old pump base, 1.8 feet above ground and 6.48 feet above top of dummy head in pit.
Elevation of reference point: 2925.7

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 20, 1931	106.1		

U-57

Location and Description: In NW¼, Sec. 18, T.5 N., R.3 W., S.B.B.& M. In old pumphouse.
Reference Point: Top of broken concrete pipe 1.0 foot above ground and 7.25 feet above top of steel casing.
Elevation of reference point: 2910.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 27, 1917	* 98.0	Aug. 3, 1931	107.9
Feb. 13, 1923	** 104.2	Apr. 29, 1932	106.7
Jan. 25, 1930	106.7	July 28, 1932	106.6
Jan. 30, 1931	106.7	Mar. 2, 1933	106.4
May 15, 1931	107.5		

* Mojave River Commission Report.
** Measurement from W. P. Rowe.

U-58

Location and Description: Near center of Sec. 18, T.5 N., R.3 W., S.B.B.& M., 300 feet north of old wood four leg windmill tower with mill and galvanized iron tank.
Reference Point: Top of wood curb on west 0.1 feet above ground.
Elevation of reference point: 2938.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 27, 1917	* 138.0	May 15, 1931	134.2
Feb. 13, 1923	** 133.6	Aug. 3, 1931	134.2
Jan. 25, 1930	133.9	Apr. 29, 1932	134.2
Jan. 30, 1931	134.2	July 28, 1932	134.3

* Mojave River Commission Report.
** Measurement from W. P. Rowe.

Table 43, continued

U-59 Lee Saul

Location and Description: 1000 feet northwest of S¼ corner of Sec. 11 T.5 N., R.4 W., S.B.B.& M.
Use: Domestic.
Reference Point: Top of 8 inch O.D. casing 2.6 feet above ground.
Elevation of reference point: 2788.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 30, 1931	56.4	Nov. 12, 1931	55.9
Feb. 14, 1931	55.8	Mar. 22, 1932	55.3
May 14, 1931	55.8	June 15, 1932	55.2
July 28, 1931	56.1		

U-59 A

Location and Description: Approximately 400 feet east of U-59.
Reference Point: Hole in pump base 0.1 feet above concrete base, 0.4 feet above ground.
Elevation of reference point: 2791.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 30, 1931	29.7	Nov. 13, 1931	28.9
May 22, 1931	31.3	Mar. 22, 1932	27.9
July 28, 1931	29.8	June 15, 1932	27.6

U-61

Location and Description: In SW¼, Sec. 10, T.5 N., R.4 W., S.B.B.& M. Windmill on Hill in Victorville.
Use: Domestic.
Reference Point: Top of well cover 2.15 feet above concrete floor at ground level.
Elevation of reference point: 2767.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 20, 1930	45.6	Nov. 12,1931	46.0
May 15, 1931	45.7	June 15,1932	* 45.7

* Windmill pumping.

Table 43, continued

U-62 Verde Ranch

Location and Description: Near center north line of NW¼, Sec. 15, T.5 N., R.4 W., S.B.B.& M. Near dairy and bunk houses.
Use: Domestic
Reference Point: Ground surface.
Elevation of reference point: 2765.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 12, 1917	*+11.9	May 15, 1931	Flowing
Feb. 19, 1930	Flowing		

* Mojave River Commission Report.

U-63

Location and Description: Near center of south line of SE¼, Sec. 16, T.5 N., R.4 W., S.B.B.& M.
Reference Point: Top of casing at concrete pump base 0.7 feet above ground.
Elevation of reference point: 2848.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 24, 1917	* 29.7	Dec. 20, 1930	33.1
Feb. 1, 1930	33.1	May 15, 1931	33. dry
Feb. 19, 1930	33.0		

* Mojave River Commission Report.

U-64 E. Wagner

Location and Description: In northwest corner of NE¼ of NW¼, Sec. 27, T.5 N., R.4 W., S.B.B. & M.
Use: Domestic.
Reference Point: Top of 6" x 10" timber across unlined pit 1.0 foot above ground.
Elevation of reference point: 2860.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 19, 1930	64.2	Nov. 13, 1931	63.2
Jan. 26, 1931	62.8	Feb. 20, 1932	63.2
May 25, 1931	65.6	Dec. 20, 1933	63.3
Aug. 4, 1931	66.4		

Table 43, continued

U-65

Location and Description: Near center of east line of SW¼, Sec. 26, T.5 N., R.4 W., S.B.B.& M., in draw above Big Cottonwood - Bee Ranch.
Use: Domestic.
Reference Point: Top of west curb at ground level. Hole at pipe inlet.
Elevation of reference point: 2806.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 3, 1930	17.5	May 15, 1932	17.6
Jan. 28, 1931	17.3	Nov. 12, 1932	17.8

U-66 Verde Ranch

Location and Description: Near center of SE¼, Sec. 26, T.5 N., R.4 W., S.B.B.& M. West side of road down cottonwood lane through ranch, northwest of U-67.
Reference Point: Top of 10 inch casing 3.0 feet above ground.
Elevation of reference point: 2792.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 1, 1930	5.6	May 15, 1931	5.7
Jan. 28, 1931	5.3	Nov. 12, 1931	6.2

U-67 Verde Ranch

Location and Description: In center of SE¼, Sec. 26, T.5 N., R.4 W., S.B.B.& M., South of U-66.
Reference Point:
Elevation of reference point: 2792.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 28, 1931	Flowing	Nov. 12, 1931	Flowing
May 15, 1931	Flowing		

Table 43, continued

U-68 Sorenson

Location and Description: Near northwest corner of $NE\frac{1}{4}$ of $NE\frac{1}{4}$, Sec. 35, T.5 N., R.4 W., S.B.B.& M.
Reference Point: One-quarter inch fittings on wood cap 2.0 feet above ground level.
Elevation of reference point: 2804.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 12, 1917	*Flowing	May 15, 1931	Flowing
Feb. 19, 1930	+10.	Nov. 12, 1931	Flowing
Jan. 28, 1931	Flowing		

* Mojave River Commission Report.

U-69

Location and Description: Near northeast corner of $NE\frac{1}{4}$ of $NE\frac{1}{4}$, Sec. 35, T.5 N., R.4 W., S.B.B.& M. Second uppermost flowing well on ditch east of well at milk house and east of road.
Reference Point: Top of wood plug in well one-quarter inch bushing 1.0 feet above ground.
Elevation of reference point: 2802.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 19, 1930	+9.2	Nov. 12, 1931	Flowing
Jan. 28, 1931	+9.2		

U-70

Location and Description: Near center of $NE\frac{1}{4}$ of $NE\frac{1}{4}$, Sec. 35, T.5 N., R.4 W., S.B.B.& M. Uppermost flowing well on ditch. Water flows out of old six inch discharge of pump. Not capped.
Reference Point: Center line of 6 inch discharge flange on old pump, 2.0 feet above ground.
Elevation of reference point: 2806.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 19, 1930	+7.5	Jan. 28, 1931	+5.8

Table 43, continued

U-71

Location and Description: Near center east side of Sec. 35, T.5 N., R.4 W., S.B.B. & M. Pumping plant east of road.
Use: Irrigation.
Reference Point: Top of 4" x 6" at floor level in southwest corner of pit, 0.5 feet above ground.
Elevation of reference point: 2813.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 12, 1917	*4.0	Apr. 3, 1930	9.6
Feb. 1, 1930	9.7	Jan. 28, 1931	9.5

* Mojave River Commission Report.

U-72

Location and Description: Near southwest corner of Sec. 36, T.5 N., R.4 W., S.B.B.& M.
Use: Irrigation.
Reference Point: Top 2 inch wood curb on west side of pit 0.2 feet above ground.
Elevation of reference point: 2824.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 12, 1917	* 4.0	Nov. 12, 1931	8.0
Feb. 1, 1930	6.3	Jan. 7, 1932	7.4
Apr. 3, 1930	6.6	Feb. 24, 1932	5.8
Jan. 28, 1931	8.4	Apr. 29, 1932	6.0
Feb. 14, 1931	8.4	Sept. 13, 1932	7.8
Feb. 20, 1931	8.3	May 24, 1933	5.3
May 2, 1931	9.4	Dec. 21, 1933	6.2
Aug. 4, 1931	10.6	May 17, 1934	6.9
Oct. 8, 1931	8.5		

* Mojave River Commission Report.

Table 43, continued

U-73

Location and Description: Near northwest corner of Sec. 1, T.4 N., R.4 W., S.B.B.& M. In Mojave River bottom just above Rancho Verde.
Use: Test well.
Reference Point: Top of well.
Elevation of reference point: 2825.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 2, 1905	* 15.9	Apr. 1, 1920	* 10.3

* Lowest and highest observations (Dec. 1904 - Dec. 1, 1920) from records of Arrowhead Reservoir and Power Co. Test well No. 5.

U-74 Paul Shroeder

Location and Description: Near center of south line of $SW\frac{1}{4}$ of $SW\frac{1}{4}$, Sec. 35, T.5 N., R.4 W., S.B.B.& M. At curve in road on hill from Verde Ranch to railroad, alongside road under box.
Reference Point:
Elevation of reference point: 2931.7

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 19, 1930	112.5	Sept. 13, 1932	113.8
Jan. 26, 1931	112.7	Mar. 24, 1933	112.3
May 12, 1931	112.9	Dec. 21, 1933	113.2
Apr. 29, 1932	112.6		

U-75

Location and Description: Near center north line of $NE\frac{1}{4}$ of $NW\frac{1}{4}$, Sec. 12, T.4 N., R.4 W., S.B.B.& M. At mouth of draw, 30 feet east of road.
Use: Test well.
Reference Point: Top of well.
Elevation of reference point: 2840.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 17, 1905	* 18.2	May 22, 1931	Dry
May 29, 1916	* 9.3	Oct. 8, 1931	Dry
Jan. 26, 1931	15.6 dry	Jan. 7, 1932	Dry
Mar. 12, 1931	15.4	Apr. 29, 1932	12.0

* Lowest and highest observations (Dec. 1904-Dec. 1920) from records of Arrowhead Reservoir and Power Co. Test well No. 4

Table 43, continued

U-75 A

Location and Description: 600 feet west of U-75.
Use: Test well.
Reference Point: Top of pipe 1.5 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 26, 1931	13.7	Oct. 8, 1931	12.7
Mar. 12, 1931	13.3	Jan. 7, 1932	12.3
May 22, 1931	13.2	Apr. 29, 1932	11.3

U-76

Location and Description: Near center of south line of NW¼ of NE¼, Sec. 13, T.4 N., R.4 W., S.B.B.& M. Domestic well on power line at edge of wash east of house at Cottonwoods.
Use: Domestic.
Reference Point: Top of concrete pump base of plunger pump.
Elevation of reference point: 2862.4

Date	Dist. R.P.to water surface	Date	Dist. R.P. to water surface
Jan. 26, 1931	28.1	Oct. 8, 1931	27.5
Mar. 12, 1931	25.5	Jan. 7, 1932	27.2
May 22, 1931	26.6	Apr. 29, 1932	20.5

U-77

Location and Description: In NE¼ of SE¼, Sec. 13, T.4 N., R.4 W., S.B.B.& M. 23 feet north of fifth power pole below transformer pole at end incl.
Use: Probably A.L. & W. Co. test well.
Reference Point: Top of 2 inch pipe under cap, 1.0 foot above ground.
Elevation of reference point: 2868.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 25, 1930	21.3 dry	Jan. 26, 1931	21.3 dry

Table 43, continued

U-78 Lacey

Location and Description: Near center of SE¼ of SE¼, Sec. 13, T.4 N., R.4 W., S.B.B.& M.
Use: Irrigation.
Reference Point: Top of one-quarter inch pipe for air line 0.83 feet above top of concrete pump base which is 0.4 feet above ground.
Elevation of reference point: 2871.9

Date	Dist. R.P. to water surface	Date	Dist R.P. to water surface
Jan. 26, 1931	29.9	Jan. 7, 1932	32.4

U-79

Location and Description: Near center of SE¼, Sec. 19, T.4 N., R.3 W., S.B.B.& M.
Reference Point:
Elevation of reference point: 2891.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Mar. 6, 1917	* 12.6	Jan. 28, 1931	26.0 dry

* Mojave River Commission Report.

Table 43, continued

M-1 Berger Service Station.

Location and Description: In center of NW¼ of SW¼, Sec. 29, T.6 N., R.4 W., S.B.B.& M. Casing in dug pit in rear of service station.
Use: Domestic.
Reference Point: Top of railroad tie curb at ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 4, 1930	8.7	Nov. 12, 1931	8.6
Dec. 12, 1930	8.2	Jan. 14, 1932	8.6
Apr. 3, 1931	8.6	Feb. 23, 1932	7.1
May 20, 1931	8.6	June 1, 1932	8.5
Aug. 5, 1931	8.2	Sept. 7, 1932	8.0
Oct. 2, 1931	8.7		

M-2 Adelanto Mutual Water Co.

Location and Description: Near center of east line SW¼, Sec. 30, T.6 N., R.4 W., S.B.B.& M. 100 feet north of Booster Plant.
Use: Not used.
Reference Point: Top of 16 inch casing 3.0 feet above top of wood curb of pit at ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist R.P. to water surface
Sept. 4, 1930	12.8	Oct. 2, 1931	12.0
Dec. 12, 1930	11.6	Nov. 12, 1931	11.7
Apr. 3, 1931	11.9	Mar. 4, 1932	10.0
May 15, 1931	a 11.5	June 1, 1932	11.2
Aug. 5, 1931	a 11.8	Nov. 15, 1932	11.7

a - Pumping nearby.

Table 43, continued

M-3 John Bennette

Location and Description: In SW¼ of NE¼, Sec. 19, T.6 N., R.4 W., S.B.B.& M. Near water t[illegible] south of cottages.
Use: Domestic
Reference Point: Top of 1 inch well curb at ladder 2.5 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 4, 1930	19.9	Jan. 14, 1932	a 19.0
Dec. 12, 1930	18.3	Feb. 23, 1932	a 20.8
May 20, 1931	a 18.9	June 1, 1932	a 22.4
Aug. 5, 1931	19.4	Sept. 7, 1932	19.8
Nov. 12, 1931	a 18.1	Jan. 10, 1934	18.6

a - Windmill pumping slowly.

M-4 Arrowhead Lake Company

Location and Description: Near southwest corner of Sec. 7, T.6 N., R.4 W., S.B.B.& M. In rear of two story house near water tank.
Use: Domestic.
Reference Point: Top of board cover at pump base 1.3 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 4, 1930	22.5	Nov. 12, 1931	21.2
Mar. 31, 1931	21.0	Jan. 14, 1932	20.8
May 20, 1931	21.4	Feb. 23, 1932	20.4
Aug. 5, 1931	22.0	June 1, 1932	21.4
Oct. 2, 1931	21.6	Sept. 9, 1932	22.4

Table 43, continued

M-5 W. C. and A. R. Buckbee

Location and Description: Near southwest corner of NW¼, Sec. 6, T.6 N., R.4 W., S.B.B.& M.
Use: Domestic.
Reference Point: Top of 7 inch casing under wo[illegible] clamp, 0.6 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 5, 1930	20.5	Nov. 12, 1931	19.2
Apr. 3, 1931	19.2	Jan. 14, 1932	18.2
May 20, 1931	19.2	Feb. 23, 1932	19.1
Aug. 5, 1931	19.8	June 1, 1932	a 21.0
Oct. 2, 1931	19.6	Sept. 7, 1932	a 22.7

a - Windmill pumping slowly.

M-6

Location and Descript[illegible]: In NE¼ of SE¼, Sec. 25, T.7 N., R.5 W., S.B.B.& M.
Use: Not used.
Reference Point: Top of 36 inch iron casing in dug pit 13.5 feet below top of 2" x 12" cover at ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 4, 1930	5.7	Nov. 12, 1931	4.9
Apr. 3, 1931	4.0	Jan. 14, 1932	3.9
May 20, 1931	4.7	Feb. 23, 1932	3.5
Aug. 5, 1931	6.1	June 1, 1932	4.3
Oct. 2, 1931	5.3	Sept. 7, 1932	5.9

Table 43, continued

M-7

Location and Description: In northeast corner NW¼, Sec. 30, T.7 N., R.4 W., S.B.B.& M.
Use: Not used.
Reference Point: Top of casing under dummy head of Luetwiler Pump, 0.6 feet above ground.
Elevation of reference point: 2562.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 4, 1930	57.6	Oct. 2, 1931	57.8
Oct. 4, 1930	57.5	Nov. 12, 1931	57.6
Dec. 12, 1930	57.4	Dec. 23, 1931	57.5
Feb. 6, 1931	57.2	Jan. 27, 1932	57.4
Mar. 20, 1931	57.3	Feb. 23, 1932	57.3
Apr. 24, 1931	57.3	Mar. 23, 1932	57.4
May 21, 1931	57.3	Apr. 21, 1932	57.4
July 29, 1931	57.9	June 1, 1932	57.6
Sept. 2, 1931	57.8	Dec. 8, 1932	57.7

M-8

Location and Description: In southwest corner SE¼ of SW¼, Sec. 19, T.7 N., R.4 W., S.B.B.& M.
Use: Irrigation.
Reference Point: Top of 10" x 12" stringer across pit 1.0 foot above ground.
Elevation of reference point: 2534.8

Date	Dist. R.P. to water surface	Date	Dist R.P. to water surface
Sept. 4, 1930	35.7	Oct. 2, 1931	35.7
Oct. 4, 1930	35.4	Nov. 12, 1931	35.6
Dec. 12, 1930	35.4	Dec. 23, 1931	35.6
Feb. 6, 1931	35.4	Jan. 27, 1932	35.8
Mar. 20, 1931	35.4	Feb. 23, 1932	35.7
Apr. 24, 1931	35.3	Mar. 23, 1932	35.7
May 21, 1931	35.4	Apr. 21, 1932	35.6
July 29, 1931	35.7	June 1, 1932	35.8
Sept. 2, 1931	35.6	Aug. 9, 1932	36.1

M-9 Nofferman Bros.

Location and Description: In southwest corner of Sec. 19, T.7 N., R.4 W., S.B.B.& M.
Reference Point: Top of ring at hole for oil line in pump 0.8 feet above bottom of pump base at ground.
Elevation of reference point: 2515.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 12, 1930	27.3	Dec. 23, 1931	26.1
Feb. 13, 1931	26.0	Jan. 27, 1932	25.1
Mar. 20, 1931	31.4	Feb. 23, 1932	25.0
Nov. 12, 1931	32.0		

M-10 Nofferman Bros.

Location and Description: In southeast corner of Sec. 24, T.7 N., R.5 W., S.B.B.& M.
Reference Point: Top of 2" x 4" at pump base 0.2 feet above ground and 0.5 feet from top of casing on slant.
Elevation of reference point: 2513.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 12, 1930	24.9	Mar. 20, 1931	28.8
Feb. 13, 1931	25.1		

M-11

Location and Description: Near center of south line of $SE\frac{1}{4}$ of $SE\frac{1}{4}$, Sec. 24, T. 7 N., R.5 W., S.B.B.& M. West edge of field near bank.
Use: Not used.
Reference Point: Top of concrete cover 0.6 feet above ground and 5.5 feet above top of casing in pit.
Elevation of reference point: 2509.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 4, 1930	a 18.1	Oct. 2, 1931	16.4
Oct. 4, 1930	a 17.9	Dec. 23, 1931	13.7
Dec. 12, 1930	b 14.5	Jan. 27, 1932	13.2
Dec. 18, 1930	c 14.7	Feb. 23, 1932	12.9
Feb. 6, 1931	13.6	Apr. 21, 1932	14.4
Mar. 20, 1931	14.3	July 7, 1932	16.1
July 29, 1931	17.9	Aug. 9, 1932	17.1
Sept. 2, 1931	17.5	Sept. 2, 1932	17.8

Table 43, continued

M-12

Location and Description: In southwest corner of SE¼ of SE¼, Sec. 24, T.7 N., R.5 W., S.B.B.& M. East well of three wells.
Use: Not used.
Reference Point: Top of concrete curb on south side of trench with three wells.
Elevation of reference point: 2507.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 4, 1930	10.0	Nov. 5, 1931	6.9
Oct. 4, 1930	7.8	Dec. 23, 1931	6.5
Dec. 12, 1930	6.9	Jan. 27, 1932	6.3
Feb. 6, 1931	6.6	Feb. 23, 1932	5.4
Mar. 20, 1931	6.6	Mar. 23, 1932	5.6
Apr. 24, 1931	7.0	Apr. 21, 1932	6.0
May 21, 1931	7.2	May 25, 1932	6.5
July 29, 1931	9.0	July 7, 1932	7.2
Sept. 2, 1931	7.6	Aug. 9, 1932	7.8
Oct. 2, 1931	7.2	Sept. 7, 1932	8.0

M-12 A

Location and Description: In southwest corner of SE¼ of SE¼, Sec. 24, T.7 N., R.5 W., S.B.B.& M. Middle well of three wells.
Use: Not used.
Reference Point:
Elevation of reference point: 2507.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 4, 1930	10.0	Nov. 5, 1931	6.9
Oct. 4, 1930	7.7	Dec. 23, 1931	6.6
Dec. 12, 1930	6.8	Jan. 27, 1932	6.4
Feb. 6, 1931	6.6	Feb. 23, 1932	5.4
Mar. 20, 1931	6.7	Mar. 23, 1932	5.6
Apr. 24, 1931	7.0	Apr. 21, 1932	6.1
May 21, 1931	7.2	May 25, 1932	6.5
July 29, 1931	9.0	July 7, 1932	7.1
Sept. 2, 1931	7.6	Aug. 9, 1932	7.8
Oct. 2, 1931	7.2	Sept. 7, 1932	8.0

Table 43, continued

M-12 B

Location and Description: In southwest corner of SE¼ of SE¼, Sec. 24, T.7 N., R.5 W., S.B.B.& M. West well of three wells.
Use: Not used.
Reference Point:
Elevation of reference point: 2507.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 4, 1930	9.7	Nov. 5, 1931	6.6
Oct. 4, 1930	7.4	Dec. 23, 1931	6.3
Dec. 12, 1930	6.6	Jan. 27, 1932	6.2
Feb. 6, 1931	6.3	Feb. 23, 1932	5.3
Mar. 20, 1931	6.4	Mar. 23, 1932	5.4
Apr. 24, 1931	6.7	Apr. 21, 1932	5.8
May 21, 1931	7.0	May 25, 1932	6.3
July 29, 1931	8.8	July 7, 1932	6.8
Sept. 2, 1931	7.3	Aug. 9, 1932	7.5
Oct. 2, 1931	6.9	Sept. 7, 1932	7.7

M-13 Rowley

Location and Description: Near southwest corner of NE¼, Sec. 19, T.7 N., R.4 W., S.B.B.& M. 500 feet north of substation on power line and 200 feet east of Highway.
Use: Irrigation.
Reference Point: Top of casing at ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 16, 1922	* 63.9	May 20, 1931	69.4
Jan. 12, 1923	* 63.7	Aug. 5, 1931	69.8
Sept. 5, 1930	69.4	Apr. 6, 1932	69.3
Mar. 30, 1931	69.2		

* Measurement from W. P. Rowe.

Table 43, continued

M-14 E. J. Krause

Location and Description: In southwest corner of SE¼, Sec. 7, T.7 N., R.4 W., S.B.B.& M.
Reference Point: Top of railroad tie sill at ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Winter 1925	* 18.	Aug. 5, 1931	22.8
Mar. 30, 1931	21.8	Jan. 13, 1932	22.0

* Measurement from W. P. Rowe.

M-15

Location and Description: In southeast corner of Sec. 31, T.8 N. R.4 W., S.B.B.& M.
Use: Not used.
Reference Point: Top of concrete curb under two railroad ties which is 10.71 feet above top of 14 inch casing in pit.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 5, 1930	16.9	Jan. 7, 1932	14.8
Dec. 13, 1930	15.0	Feb. 23, 1932	14.4
Mar. 20, 1931	14.5	[illegible] 23, 1932	14.4
May 20, 1931	14.8	June 23, 1932	15.0
Aug. 4, 1931	15.9	Sept. 7, 1932	16.1
Oct. 2, 1931	16.0	Jan. 10, 1934	15.0
Nov. 5, 1931	15.4		

M-16 Helendale Store

Location and Description: Near northeast corner of SE¼ of NW¼, Sec. 32, T.8 N., R.4 W., S.B.B.& M.
Use: Domestic.
Reference Point: Top edge of 1" x 4" board around concrete collar and 0.2 feet below top of concrete at ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 5, 1930	30.2	Jan. 13, 1932	25.2
Mar. 30, 1931	29.5	Mar. 23, 1932	25.1
May 30, 1931	29.4	June 23, 1932	a 34.5
Aug. 5, 1931	29.7		

a - Pumping.

M-17 F. H. Merrell

Location and Description: In NW¼ of SE¼, Sec. 31, T.8 N., R.4 W., S.B.B.& M. At edge of trees on road easterly from barn. Head of ditch is west of here and alongside M-17 A.
Use: Not used.
Reference Point: Top of 14 inch casing in dug pit approximately 4 feet below average ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 10, 1930	2.2	Oct. 2, 1931	2.0
Dec. 13, 1930	0.6	Nov. 5, 1931	0.6
Mar. 19, 1931	0.3	Jan. 7, 1932	0.3
May 20, 1931	0.8	Mar. 8, 1932	0.0
Aug. 5, 1931	2.2	May 26, 1932	0.4

M-17 A

Location and Description: In NW¼ of SE¼, Sec. 31, T.8 N., R.4 W., S.B.B.& M. 150 feet west of M-17 and 6 feet east of ditch.
Use: Not used.
Reference Point: Top flange on suction pipe of abandoned pump.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 10, 1930	3.3	Oct. 2, 1931	3.0
Dec. 13, 1930	1.5	Nov. 5, 1931	1.6
Mar. 19, 1931	1.2	Jan. 7, 1932	1.2
May 20, 1931	1.8	Mar. 8, 1932	1.1
Aug. 5, 1931	3.4	May 26, 1932	1.6

Table 43, continued

M-18 F. H. Merrell

Location and Description: Near middle of south line of SE¼ of NW¼, Sec. 31, T.8 N., R.4 W., S.B.B.& M. Near Athel tree at house in clearing. Tank near by.
Use: Not used.
Reference Point: Top of 24 inch casing 0.9 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 10, 1930	18.4	Oct. 2, 1931	18.3
Dec. 13, 1930	17.7	Nov. 5, 1931	18.0
Mar. 19, 1931	17.0	Jan. 7, 1932	17.1
May 20, 1931	17.1	Mar. 8, 1932	17.2 Mud
Aug. 5, 1931	18.1	May 26, 1932	17.0 Mud

M-19 F. H. Merrell

Location and Description: In center and near west line of NW¼ of NW¼, Sec. 31, T.8 N., R.4 W., S.B.B.& M. At ranch house.
Use: Domestic and Irrigation.
Reference Point: Top of 8 inch circular concrete curb 1.0 foot above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 10, 1930	45.0	Jan. 7, 1932	44.6
Dec. 13, 1930	45.0	Mar. 4, 1932	44.3
Mar. 19, 1931	44.5	May 26, 1932	44.1
May 20, 1931	44.8	July 6, 1932	44.4
Aug. 5, 1931	44.9	Dec. 8, 1932	44.6
Nov. 5, 1931	44.9		

Table 43, continued

M-20

Location and Description: Near southeast corner of SE¼ of SW¼, Sec. 19, T.8 N., R.4 W., S.B.B.& M.
Use: Not used.
Reference Point: Top of 3" x 4" block at base of Bulldozer Pump and resting on one inch board on 4" x 6" timber, 0.7 feet above average ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 12, 1930	52.0	Jan. 13, 1932	51.9
Dec. 13, 1930	52.2	Mar. 4, 1932	51.6
Mar. 27, 1931	51.9	May 26, 1932	51.3
May 20, 1931	51.8	July 6, 1932	51.2
Aug. 5, 1931	51.7		

M-21

Location and Description: In southeast corner of SW¼ of SE¼, Sec. 19, T.8 N., R.4 W., S.B.B.& M.
Reference Point: Top of 6.0 foot concrete curb 1.0 foot below average ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 12, 1930	17.3	May 20, 1931	16.5
Dec. 13, 1930	17.2	Aug. 5, 1931	17.2
Mar. 27, 1931	16.5		

M-22 Lord

Location and Description: In center and near south line of SW¼ of SW¼, Sec. 20, T.8 N., R.4 W., S.B.B.& M.
Use: Domestic and Irrigation.
Reference Point: Top of concrete curb on north side of pit and approximately 9.0 feet below ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 13, 1930	3.0	Jan. 13, 1932	2.5
Mar. 26, 1931	2.5	Mar. 8, 1932	2.0
Oct. 2, 1931	3.4	May 26, 1932	2.1
Nov. 5, 1931	3.2	Jan. 10, 1934	2.5

Table 43, continued

M-23 Warren Smithson

Location and Description: In southwest corner of SE¼, Sec. 20, T.8 N., R.4 W., S.B.B.& M.
Reference Point: Top of wood cover on pit 2.05 feet below top of concrete block curb.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 10, 1930	3.5	Mar. 8, 1932	0.6
Apr. 1, 1931	2.0	May 26, 1932	3.1
Nov. 5, 1931	0.8	July 6, 1932	3.5
Jan. 13, 1932	0.9		

M-24 Helendale Orchards

Location and Description: In center and near south line of SE¼ of NE¼, Sec. 30, T.8 N., R.4 W., S.B.B.& M.
Use: Irrigation.
Reference Point: Top of concrete pit at floor level of dugout pump station.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 12, 1930	1.7	Nov. 5, 1931	1.6
Dec. 13, 1930	1.1	Jan. 13, 1932	0.5
Mar. 19, 1931	0.3	Mar. 4, 1932	0.0
May 20, 1931	0.1	May 26, 1932	+0.4

Table 43, continued

M-25 Jas. Leonard

Location and Description: In southwest corner of SW¼, Sec. 10, T.8 N., R.4 W., S.B.B.& M.
Use: Domestic.
Reference Point: Top of 8" x 8" timber at ground level on east side, 3 feet above concrete curb.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 10, 1930	13.8	Nov. 5, 1931	15.0
Dec. 18, 1930	15.0	Jan. 13, 1932	15.0
Mar. 26, 1931	12.4	Mar. 8, 1932	12.5
May 20, 1931	11.8	May 26, 1932	11.4
Aug. 5, 1931	13.2	Dec. 8, 1932	14.2

M-26

Location and Description: Near southwest corner of SE¼, Sec. 2, T.8 N., R.4 W., S.B.B.& M. North of road and power line. Railroad ties covered with rocks over pit.
Use: Not used:
Reference Point: Top of concrete curb on south side 0.5 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 16, 1930	26.0	Jan. 13, 1932	24.4
Apr. 1, 1931	24.1	Mar. 8, 1932	23.9
May 20, 1931	24.3	May 25, 1932	24.2
Aug. 5, 1931	25.7	Jan. 10, 1934	25.4

Table 43, continued

M-27

Location and Description: In center and near west line of NW¼ of SE¼, Sec. 15, T.8 N., R.4 W., S.B.B.& M. At edge of river wash, 30 feet north of bank.
Use: Not used.
Reference Point: Top of 6 foot concrete curb on north side and 2.0 feet above average ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 19, 1930	12.8	Nov. 5, 1931	13.3
Dec. 18, 1930	9.2	Jan. 13, 1932	8.5
Mar. 26, 1931	8.0	Mar. 8, 1932	7.6
May 20, 1931	8.9	May 26, 1932	8.0
Aug. 5, 1931	11.8	July 6, 1932	9.2
Oct. 2, 1931	13.1	Nov. 15, 1932	9.6

M-28 Cornell

Location and Description: Near southeast corner of SW¼ of SE¼, Sec. 15, T.8 N., R.4 W., S.B.B.& M. Under two cottonwoods 30 feet north of house.
Use: Domestic.
Reference Point: Three notches on east side of redwood curb 0.3 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 17, 1922	*11.1	Aug. 5, 1931	13.9
Sept. 12, 1930	15.0	Nov. 5, 1931	16.6
Apr. 1, 1931	10.2	Jan. 13, 1932	11.9
May 20, 1931	11.0	Mar. 17, 1932	10.9

* Measurement from W. P. Rowe.

Table 43, continued

M-29 R. Shillinglaw

Location and Description: In center and near west line of NW¼ of NE¼, Sec. 14, T.8 N., R.4 W., S.B.B.& M. In clump of willows 600 feet north of pumping plant at house.
Use: Not used.
Reference Point: Three notches on south side of 2" x 12" curb at ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 24, 1930	7.8	Oct. 7, 1931	10.9
Sept. 11, 1930	a 10.6	Nov. 17, 1931	10.8
Apr. 3, 1931	7.4	Jan. 13, 1932	7.8
May 20, 1931	7.4	Mar. 17, 1932	6.1
Aug. 5, 1931	a 10.4	May 18, 1932	7.6

a - Pumping plant 600 feet south operating.

M-30 J. A. Decrow

Location and Description: In southwest corner of SE¼, Sec. 12, T.8 N., R.4 W., S.B.B.& M.
Reference Point:
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 3, 1931	9.0	Jan. 13, 1932	9.7
May 20, 1931	9.5	Mar. 17, 1932	8.6
Aug. 5, 1931	10.5	May 18, 1932	8.4
Oct. 7, 1931	12.0	Nov. 15, 1932	9.9
Nov. 17, 1931	10.6		

Table 43, continued

M-31 Conger

Location and Description: In SE¼ of SE¼, Sec. 23, T.8 N., R.4 W., S.B.B.& M. West of water tank northeast of concrete house.
Use: Not used.
Reference Point: Top of iron clamp on railroad tie blocks over casing 0.6 feet above ground.
Elevation of reference point.

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 12, 1930	134.8	June 23, 1932	134.7
Apr. 2, 1931	134.5		

M-32 Conrad

Location and Description: Near southwest corner of NW¼ of SW ¼, Sec. 24, T.8 N., R.4 W., S.B.B.& M. Near shacks northeast of Conger.
Use: Not used.
Reference Point: Top of 8 inch casing 0.2 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 18, 1930	136.0	Apr. 2, 1931	136.0

M-33 Dr. M. H. Kutch

Location and Description: Near center of west line of NW¼, Sec. 31, T.8 N., R.3 W. S.B.B.& M. On east side of road south from Wild 4 miles.
Use: Domestic.
Reference Point: Top of 4 inch wood clamp 0.3 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 4, 1930	127.7	Apr. 9, 1931	127.5

Table 43, continued

M-33 A

Location and Description: Near southwest corner of NW¼ of SW¼, Sec.31, T.8 N., R.3 W., S.B.B.& M. 50 feet northeast of M-33 B and three feet southwest of a dry well.
Reference Point: Top of 10 inch battered casing, 0.5 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 4, 1930	159.0	Mar. 17, 1932	158.8
Apr. 9, 1931	158.9		

M-33 B

Location and Description: In SW¼ and 0.3 miles north of the southwest corner of Sec. 31, T.8 N., R.3 W., S.B.B.& M. 50 feet southwest of M-33 A.
Reference Point: Top of 10 inch casing, 0.2 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 4, 1930	159.6	Mar. 17, 1932	159.2
Apr. 9, 1931	159.3		

M-34 Whestphalea

Location and Description: In southeast corner SW¼ of SW¼, Sec. 30, T.8 N., R.3 W., S.B.B.& M. In Vista Valley.
Use: Domestic.
Reference Point: Top of 30 inch corrugated iron casing of dug well approximately 1.0 foot above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 12, 1930	205.8	June 23, 1932	205.2
Apr. 2, 1931	205.4		

Table 43, continued

M-35 Miller

Location and Description: Near center of east line of S½ of SE¼, Sec. 18, T.8 N., R.3 W., S.B.P.& M. In clearing at foot of rock hill.
Use: Domestic.
Reference Point: Top of 1 inch wood cover of pit at ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 18, 1930	150.6	June 23, 1932	150.5
Apr. 2, 1931	150.4		

M-36 Arthur Brisbane

Location and Description: Near center of north line of NE¼ of NW¼, Sec. 18, T.8 N., R.3 W., S.B.B.& M.
Reference Point: Top of wood cover on pit at ground level, 1.0 foot below top of concrete curb.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 24, 1930	56.8		

M-37

Location and Description: Near northwest corner of SE¼ of NE¼, Sec. 7, T.8 N., R.3 W., S.B.B.& M. Near water tank south of mud and railroad tie shack on bank of river.
Use: Domestic.
Reference Point: Top of 4 foot rock curbed pit at ground level.
Elevation of reference Point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 11, 1930	13.1	Nov. 23, 1931,	12.7
Apr. 2, 1931	11.3	Jan. 14, 1932	11.6
May 20, 1931	11.8	Mar. 17, 1932	9.8
Aug. 13, 1931	13.1	May 18, 1932	11.2

Table 43, continued

M-38 Everett Swing

Location and Description: In southeast corner of NW¼ of SW¼, Sec. 4, T.8 N., R.3 W., S.B.B. & M. North of railroad at gates. Athel and mesquite hedge near by.
Use: Not used.
Reference Point: Top of timber across pit, over 6 inch iron casing in bottom, at ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 24, 1930	15.3	Nov. 23, 1931	15.7
Sept. 11, 1930	15.4	Jan. 14, 1932	15.1
Apr. 2, 1931	13.6	Mar. 17, 1932	13.4
May 21, 1931	13.8	May 18, 1932	13.3
Aug. 5, 1931	15.3	Mar. 2, 1933	13.4

M-39

Location and Description: In NW¼ of NW¼, Sec. 3, T.8 N., R.3 W., S.B.B.& M. Up wash from store at Hodge. Near low dirt bank.
Use: Not used.
Reference Point: Top of 1 inch board cover of pit at ground level.
Elevation of reference point: 2300.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 24, 1930	42.7	May 20, 1931	39.5
Sept. 11, 1930	41.6		

Table 43, continued

M-40 L. S. Emerson

Location and Description: In SW¼ of SW¼, Sec. 34, T.9 N., R.3 W., S.B.B.& M. Pumping plant at south edge of highway.
Use: Irrigation.
Reference Point: Three notches in timber at ground level in northwest corner of pit.
Elevation of reference point: 2273.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 15, 1919	* 16.1	Dec. 23, 1931	17.1
Jan. 14, 1923	** 13.1	Feb. 15, 1932	12.6
Jan. 24, 1930	16.5	Feb. 23, 1932	12.9
Sept. 11, 1930	15.5	Mar. 17, 1932	12.0
Dec. 12, 1930	16.7	Apr. 6, 1932	11.9
Feb. 13, 1931	14.7	May 18, 1932	12.0
Mar. 17, 1931	13.5	Sept. 23, 1932	14.8
May 6, 1931	13.9	Nov. 15, 1932	15.5
Aug. 5, 1931	15.6	Mar. 2, 1933	12.5
Oct. 7, 1931	16.9	Dec. 14, 1933	16.8
Nov. 17, 1931	17.3		

* Measurement from W.S.P. 578, page 435, well 79.
** Measurement from W. P. Rowe.

M-41

Location and Description: In SE¼ of NW¼, Sec. 34, T.9 N., R.3 W., S.B.B.& M. On north side of highway and east of old red iron shed east of Hodge. Sign on shack "Nafick House." West of road to Hinkley.
Use: Not used.
Reference Point: Base of pump at top of concrete block at ground level.
Elevation of reference point: 2302.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 17, 1930	50.2	Aug. 5, 1931	47.5
Mar. 6, 1930	49.3	Oct. 2, 1931	49.8
Apr. 15, 1930	45.5	Jan. 7, 1932	49.4
Sept. 11, 1930	47.4	Feb. 23, 1932	46.1
Mar. 17, 1931	46.0	Apr. 6, 1932	44.9
May 6, 1931	45.9	May 18, 1932	44.6

Table 43, continued

M-41 A Nellie Storey

Location and Description: In SE¼ of SE¼, Sec. 34, T.9 N., R.3 W., S.B.B.& M. 3/4 mile southeast of M-41.
Reference Point: Top of concrete at ground level.
Elevation of reference point: 2381.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 19, 1930	126.3	Apr. 7, 1932	126.7
Apr. 19, 1931	126.5	Mar. 22, 1933	126.1
Feb. 23, 1932	126.8		

M-41 B

Location and Description: In NW¼ of NW¼, Sec. 11, T.8 N., R.3 W., S.B.B.& M. 1¼ mile south of M-41 A and farther up same draw. Bed rock point ends 50 feet southwest of well.
Reference Point: Top tie on west, 0.35 feet above concrete of shaft at ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 19, 1930	124.1	Apr. 7, 1932	124.4
Apr. 19, 1931	124.6	Mar. 22, 1933	124.4

M-42 Emile Egraud

Location and Description: In NE¼ of NE¼, Sec. 27, T.9 N., R.3 W., S.B.B.& M. Bird farm on old Stephens Ranch, 300 feet north of house.
Use: Domestic.
Reference Point: Top of concrete pit, 1.0 foot above ground.
Elevation of reference pit: 2235.7

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 24, 1930	26.2	Oct. 7, 1931	26.6
Mar. 17, 1931	25.1	Jan. 7, 1932	28.7
May 20, 1931	23.2	Mar. 17, 1932	a 16.2
Aug. 13, 1931	24.6		

a - Pumping 40 feet south.

Table 43, continued

M-42 A

Location and Description: 3/8 mile north of M-42.
Reference Point: Top of curb.
Elevation of reference point: 2232.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 20, 1931	23.1		

M-43 Sweeten

Location and Description: Near northeast corner of NW¼ of NE¼, Sec.19, T.9 N., R.2 W., S.B.B.& M. Near Southern Sierras Power Co. power line and west of aviation field.
Use: Domestic.
Reference Point: Top of 2" x 12" plank pump base 1.2 feet above ground. Planks rest on concrete foundation 1.0 foot high.
Elevation of reference point: 2256.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 11, 1930	65.8	Mar. 17, 1932	67.2
May 27, 1931	66.5	Sept. 22, 1932	66.0
Aug. 19, 1931	66.8		

M-44 J. E. Sickner

Location and Description: In southwest corner of SW¼ of NW¼, Sec. 19, T.9 N., R.2 W., S.B.B.& M.
Reference Point: Top of round concrete cement pit curb at ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface.
Jan. 14, 1930	103.8	Jan. 17, 1930	Dry

Table 43, continued

M-45

Location and Description: In SW¼ of SW¼, Sec. 13, T.9 N., R.3 W., S.B.B.& M. North of house near south edge of railroad. New concrete block house with reservoir and swimming pool.
Use: Irrigation.
Reference Point: Top of concrete pit on south side 1.0 foot above ground level.
Elevation of reference point: 2226.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 24, 1930	37.2	Aug. 19, 1931	39.6
May 27, 1931	39.3	Apr. 6, 1932	38.3

M-46 Lenwood Mutual Water Company

Location and Description: In southeast corner of NE¼, Sec. 18, T.9 N., R.2 W., S.B.B.& M.
Use: Irrigation.
Reference Point: 1½ inch pipe under pump 1.4 feet above floor level.
Elevation of reference point: 2248.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 17, 1930	64.0	Mar. 23, 1932	67.2
Sept. 11, 1930	66.5	May 4, 1932	66.7
May 27, 1931	67.8	Sept. 22, 1932	65.8
Nov. 23, 1931	67.9		

M-47

Location and Description: In SW¼ of SW¼, Sec. 8, T.9 N., R.2 W., S.B.B.& M. Northeast of Lenwood near rock ridge.
Reference Point: Top of 12" x 12" across pit at ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 14, 1923	* 45.0	Sept. 11, 1930	Dry
Jan. 17, 1930	Dry		

* Measurement from W. P. Rowe.

Table 43, continued

M-47 A

Location and Description: In NE¼ of NE¼, Sec. 18, T.9 N., R.2 W., S.B.B.& M. 300 feet north of railroad crossing at Lenwood.
Use: Not used.
Reference Point: Ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 11, 1930	49. Dry		

M-48

Location and Description: In SE¼ of SE¼, Sec. 6, T.9 N., R.2 W., S.B.B.& M. Well is north of west end of rock hog back.
Use: Not used.
Reference Point: Top railroad tie at ground level on east side of 7' x 7' wood pit with well in bottom.
Elevation of reference point: 2183.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 11, 1930	17.7	Nov. 23, 1931	19.4
Aug. 19, 1931	19.1	Mar. 17, 1932	11.5

M-49 Fogelsang

Location and Description: In northwest corner of SE¼ of SW¼, Sec. 1., T.9 N., R.2 W., S.B.B.& M. Well is east of well at group of cabins on south side of highway west of Barstow Hill.
Reference Point:
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 14, 1923	*59.5	Jan. 17, 1930	60.3

* Measurement from W. P. Rowe.

Table 43, continued

M-50

Location and Description: In SW¼ of SW¼, Sec. 27, T.9 N., R.3 W., S.B.& M. On west fence line and north of road (Hodge to Hinkley). On ranch nearest gauging station.
Use: Irrigation.
Reference Point: Top of concrete block pit on south side at ladder; 1.0 foot above average ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 24, 1930	18.4	Aug. 13, 1931	21.2
Mar. 17, 1931	14.8	Feb. 4, 1932	16.2
May 20, 1931	17.7	Feb. 23, 1932	14.6

M-51 J. Slagill

Location and Description: In NE¼ of NE¼, Sec. 28, T.9 N., R.3 W. S.B.&M. At edge of river.
Use: Domestic
Reference Point: Top of 1 inch cover of pit at ground level. Casing in bottom of pit.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 11, 1930	17.0	Jan. 7, 1932	20.4
Feb. 13, 1931	6.7	Feb. 4, 1932	14.5
Mar. 17, 1931	4.6	Mar. 4, 1932	3.4
Aug. 5, 1931	20.2	Jan. 10, 1933	11.4
Oct. 7, 1931	22.2	Feb. 9, 1934	4.3
Dec. 23, 1931	22.5		

Table 43, continued

M-52

Location and Description: In SE¼ of SW¼, Sec. 10, T.9 N., R.3 W., S.B.B.& M. On hill.
Use: Not used.
Reference Point: Small hole punched in west side of casing, 0.5 feet above ground.
Elevation of reference point: 2292.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	90.8	Mar. 29, 1932	91.7
Feb. 25, 1931	91.4	July 26, 1932	91.7
Aug. 6, 1931	91.4	Dec. 22, 1932	91.5
Mar. 10, 1932	91.7	Feb. 9, 1934	91.1

M-52 A

Location and Description: In SW¼ of SW¼, Sec. 32, T.10 N., R.3 W., S.B.B.& M. Two miles north and two miles west of M-52.
Reference Point: Top of bearing 2.8 feet above ground.
Elevation of reference point: 2259.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 25, 1931	83.8	Mar. 10, 1932	84.2
Aug. 11, 1931	84.0		

M-52 B

Location and Description: Near center of north line of NW¼, Sec. 32, T.10 N., R.3 W., S.B.B.& M.
Reference Point: Top of 2" x 12" curb at ground leve.
Elevation of reference point: 2219.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 25, 1931	54.7	July 26, 1932	55.2
Aug. 11, 1931	54.8	Dec. 22, 1932	55.4
Mar. 10, 1932	55.1	Feb. 9, 1934	55.7
Mar. 29, 1932	55.1		

Table 43, continued

M-52 C

Location and Description: Near center of west line of SW¼, Sec. 29, T.10 N., R.3 W., S.B.B.& M.
Reference Point: Top of 7 inch casing, 0.3 feet above concrete.
Elevation of reference point: 2209.7

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 25, 1931	51.2	Mar. 10, 1932	a 51.7

a - Pumping slowly.

M-52 D

Location and Description: Near center of north line of Sec. 28, T.10 N., R.3 W., S.B.B & M.
Reference Point: Top of 1 inch plank cover 0.1 foot above ground.
Elevation of reference point: 2161.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 25, 1931	15.7		

M-52 E

Location and Description: In SE¼, Sec. 8, T.9 N., R.3 W., S.B.B.& M.
Reference Point: Top of 12 inch casing 2.0 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 25, 1931	118.9	Mar. 10, 1932	119.4
Aug. 11, 1931	119.2		

Table 43, continued

M-53

Location and Description: In northeast corner of Sec. 10, T.9 N., R.3 W., S.B.B.& M. On edge of slope to river.
Use: Not used.
Reference Point: Top of 6 inch casing at ground level, 3 ties bolted together at southeast corner of house.
Elevation of reference point: 2256.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	77.9	Mar. 4, 1932	80.8
Dec. 19, 1930	79.0	Mar. 29, 1932	80.4
Mar. 17, 1931	79.3	July 26, 1932	78.4
Aug. 6, 1931	79.9	Dec. 22, 1932	77.3
Feb. 4, 1932	80.8		

M-53 A

Location and Description: In northwest corner of SW¼, Sec. 11, T.9 N., R.3 W., S.B.B.& M. At foot of hill.
Use: Not used.
Reference Point: Top of 1" x 12" board on north upright 1.0 foot above wood cover and 2.0 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 19, 1930	26.5	Mar. 29, 1932	24.8
Mar. 17, 1931	26.9	July 26, 1932	21.5
Feb. 4, 1932	28.2	Dec. 22, 1932	22.0
Mar. 4, 1932	26.2		

Table 43, continued

M-54

Location and Description: Near center of NE¼ of SE¼, Sec. 3, T.9 N., R.3 W., S.B.B.& M. On east side of road.
Use: Not used.
Reference Point: Top of 12 inch casing 2.4 feet above ground.
Elevation of reference point: 2242.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	66.8	Mar. 4, 1932	68.9
Dec. 19, 1930	67.3	Mar. 29, 1932	68.7
Mar. 17, 1931	67.5	July 26, 1932	67.6
Aug. 6, 1931	67.9		

M-54 A

Location and Description: In southwest corner of NW¼ of SW¼, Sec. 35, T.10 N., R.3 W., 3/4 mile south of M-70 A.
Reference Point: Top of wood curb on north side at ground.
Elevation of reference point: 2212.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 19, 1930	52.0	Mar. 29, 1932	53.4
Dec. 19, 1930	51.1	Apr. 21, 1932	54.1
Aug. 6, 1931	54.0	July 26, 1932	55.4
Mar. 4, 1932	52.8	Dec. 22, 1932	54.4

M-55

Location and Description: In southwest corner of Sec. 27, T.10 N., R.3 W., S.B.B.& M. On north side of Highway. Service station on corner.
Use: Irrigation and domestic.
Reference Point: Top of 2" x 12" boards across pit, 1.1 feet below door sill which is 0.6 feet above ground.
Elevation of reference point: 2196.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	40.1	Nov. 17, 1931	43.2
Mar. 17, 1931	41.8	Mar. 16, 1932	43.4
Aug. 11, 1931	42.6	Mar. 29, 1932	43.1

Table 43, continued

M-56 Osborn

Location and Description: In southeast corner of Sec. 10, T.9 N., R.3 W., S.B.B.& M.
Use: Not used.
Reference Point: Top of 2 inch wood curb on east side at ground level.
Elevation of reference point: 2209.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 11, 1930	20.5	Feb. 4, 1932	22.8
Dec. 19, 1930	21.0	Mar. 4, 1932	18.4
Mar. 17, 1931	21.6	Mar. 29, 1932	17.8
Aug. 5, 1931	22.2	July 26, 1932	13.1

M-56 A Bullock

Location and Description: In southwest corner of NW¼ of NW¼, Sec.14, T.9 N., R.3 W., S.B.B.& M. At pumping plant on east side of road.
Reference Point: Top of 2 inch well cover at ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 19, 1930	23.8	Mar. 29, 1932	16.0
Mar. 17, 1931	24.4	July 26, 1932	13.0
Aug. 5, 1931	24.9	Oct. 5, 1932	14.2
Feb. 4, 1932	25.0	Dec. 22, 1932	16.0
Mar. 4, 1932	17.3	Jan. 10, 1934	19.7

M-57

Location and Description: Near northwest corner of NW¼ of SW¼, Sec. 14, T.9 N., R.3 W., S.B.B.& M. Tall corrugated iron tank at well.
Use: Not used.
Reference Point: Top of concrete block pit on south side at ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 11, 1930	21.5	Feb. 4, 1932	24.0
Dec. 19, 1930	23.1	Mar. 4, 1932	11.6
Mar. 17, 1931	23.8	Mar. 29, 1932	9.6
Aug. 5, 1931	24.4	July 26, 1932	12.0

Table 43, continued

M-57 A

Location and Description: In northeast corner of $SE\frac{1}{4}$ of $SE\frac{1}{4}$, Sec. 15, T.9 N., R.3 W., S.B.B.& M. On west side of road at edge of river.
Reference Point: Top of 12 inch casing near 30 inch casing, 3.0 feet below ground.
Elevation of reference point: 2217.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 19, 1930	17.9	Mar. 4, 1932	3.8
Mar. 17, 1931	18.5	Mar. 29, 1932	2.6
Aug. 5, 1931	19.1	July 26, 1932	6.2
Feb. 4, 1932	18.4		

M-58 George Tyler

Location and Description: In southwest corner of $SW\frac{1}{4}$, Sec. 33, T.11 N., R.3 W., S.B.B.& M.
Use: Irrigation.
Reference Point: Top of 30 inch concrete pipe casing northeast of house, 0.3 feet above ground.
Elevation of reference point: 2067.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 31, 1930	10.1	Mar. 10, 1932	10.3
Feb. 25, 1931	10.2	Dec. 22, 1932	Plugged
Apr. 27, 1931	10.4		

M-59

Location and Description: Near center of north line of $SW\frac{1}{4}$ of $NW\frac{1}{4}$, Sec. 5, T.10 N., R.3 W., S.B.B.& M. Flowing well between two roads on south side of Harper Lake just west of square concrete trough.
Reference Point:
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 31, 1930	Flowing	May 4, 1932	Flowing
Mar. 10, 1932	Flowing		

Table 43, continued

M-60

Location and Description: Near center of north line of NW¼ of NE¼, Sec. 6, T.10 N., R.3 W., S.B.B.& M. Flowing well or spring on south side of Harper Lake.
Reference Point:
Elevation of Reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 31, 1930	Flowing	May 4, 1932	Flowing
Mar. 10, 1932	Flowing		

M-61

Location and Description: Near northwest corner of NE¼ of SE¼, Sec.30, T.11 N., R.3 W., S.B.B.& M. Flowing well on Blacks Ranch.
Reference Point:
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 1919	*Flowing	Mar. 10, 1932	Flowing
May 1922	*Flowing	Dec. 22, 1932	Flowing
Aug. 27, 1931	Flowing		

* Measurement from W. P. Rowe.

M-62

Location and Description: In northwest corner of NE¼ of SE¼, Sec. 30, T.11 N., R.3 W., S.B.B.& M. Small well in yard near cook shack.
Reference Point: Top of 5 inch galvanized iron casing 1.6 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 31, 1930	3.5	Mar. 10, 1932	4.0
Feb. 25, 1931	3.3	Dec. 22, 1932	4.7
Aug. 27, 1931	5.8	Feb. 9, 1932	4.6

Table 43, continued

M-64

Location and Description: In northeast corner of SE¼, Sec. 28, T.11 N., R.3 W., S.B.B.& M.
Reference Point: Top of 12 inch casing with 6 inch inside string 1.2 feet above ground.
Elevation of reference point: 2080.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 31, 1930	42.8	July 6, 1932	43.1
Feb. 25, 1931	42.9	Dec. 22, 1932	43.2
Mar. 10, 1932	43.0	Feb. 9, 1934	43.6
Mar. 29, 1932	43.0		

M-64 A

Location and Description: Near the northeast corner of SE¼, Sec. 28, T.11 N., R.3 W., S.B.B.& M. 175 feet west of M-64.
Use: Not used.
Reference Point: Top of 6 inch casing 1.3 feet above ground.
Elevation of reference point: 2079.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 31, 1930	41.4	Mar. 29, 1932	41.6
Feb. 25, 1931	41.4	July 6, 1932	41.6
Mar. 10, 1932	41.6	Feb. 9, 1934	42. Dry

M-65 S. F. Edwards

Location and Description: 600 feet north of southeast corner of Sec. 28, T.11 N., R.3 W., S.B.B.& M. On west side of road in cottonwoods. Galvanized iron trough and dirt reservoir.
Reference Point: Top of 2" x 10" board cover of pit at ground level.
Elevation of reference point: 2073.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 31, 1930	21.3	Mar. 10, 1932	22.2
Feb. 25, 1931	21.4	July 6, 1932	22.1
Aug. 27, 1931	22.4	Dec. 22, 1932	22.9

Table 43, continued

M-66

Location and Description: Near center of south line of SE¼ of NW¼, Sec. 34, T.11 N., R.3 W., S.B.B.& M. 0.6 mile north of south line of Sec. 34 in galvanized pump house with cottonwoods 300 feet east of road.
Use: Not used.
Reference Point: Top of 12" x 12" timber across pit, 1.5 feet above curb top at ground level.
Elevation of reference point: 2086.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 31, 1930	29.5	Mar. 29, 1932	29.9
Feb. 25, 1931	29.7	Dec. 22, 1932	30.0
Aug. 27, 1931	29.7	Feb. 9, 1934	30.2
Mar. 10, 1932	30.0		

M-67

Location and Description: Near southeast corner of NE¼, Sec. 4, T.10 N., R.3 W., S.B.B.& M. At northeast corner of abandoned reservoir.
Use: Not used.
Reference Point: Top of battered 12 inch casing 0.2 feet above ground.
Elevation of reference point: 2099.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 8, 1919	* 34.6	Feb. 25, 1931	35.4
May 31, 1930	35.1	Aug. 27, 1931	32. clogged

* Measurement from W.S.P.578, page 272, well 36.

Table 43, continued

M-68

Location and Description: In southeast corner of SW¼ of SW¼, Sec. 11, T.10 N., R.3 W., S.B.B.& M. Northeast of old shack.
Use. Not used.
Reference Point: Top of 2" x 12" curb of octagon pit 0.2 feet above ground level on east.
Elevation of reference point: 2142.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 31, 1930	27.6	Mar. 29, 1932	32.3
Mar. 19, 1931	31.8	July 6, 1932	32.4
May 27, 1931	31.9	Dec. 22, 1932	32.8
Aug. 11, 1931	32.0	Feb. 9, 1934	Caved in
Mar. 10, 1932	32.2		

M-69 R. B. Riley

Location and Description: Near northeast corner of SW¼ of NW¼, Sec. 24, T.10 N., R.3 W., S.B.B.& M. 1000 feet north of house at reservoir.
Use: Irrigation.
Reference Point: Top of pump base on casing 1.0 foot above ground in pump house.
Elevation of reference point: 2165.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 31, 1930	a 51.0	Mar. 10, 1932	33.2
May 27, 1931	33.2	July 6, 1932	34.6

a - Pumping.

Table 43, continued

M-70

Location and Description: In southwest corner of SE¼ of SE¼, Sec. 26, T.10 N., R.3 W., S.B.B.& M. Weir box on north side of highway.
Reference Point: Top of wood curb on north side at ground level.
Elevation of reference point: 2183.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	28.2	Mar. 29, 1932	31.7
Dec. 19, 1930	29.8	Apr. 21, 1932	32.0
Mar. 19, 1931	29.7	May 10, 1932	32.2
Aug. 6, 1931	30.0	July 6, 1932	a 32.9
Nov. 17, 1931	32.1	Jan. 10, 1933	33.8
Mar. 10, 1932	31.6	Jan. 10, 1934	33.6

a - Pumping nearby.

M-70 A L. A. Finney

Location and Description: In southwest corner of Sec. 26, T.10 N., R.3 W., S.B.B.& M.
Use: Domestic windmill.
Reference Point: Top of 0.2 foot clamp on casing 1.5 feet above ground.
Elevation of reference point: 2185.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	a 36.3	Nov. 17, 1931	33.9
Dec. 19, 1930	a 33.8	Mar. 4, 1932	33.6
Mar. 19, 1931	34.4	Mar. 29, 1932	a b 36.0
Aug. 6, 1931	a 37.4	Apr. 21, 1932	36.2

a - Pumping 200 feet south.
b - Windmill pumping.

Table 43, continued

M-70 B

Location and Description: In NW¼ of SW¼, Sec. 26, T.10 N., R.3 W., S.B.B.& M. Old pumping plant north of residence.
Reference Point: Top of pump base at ground.
Elevation of reference point: 2177.2

Date	Dist. R.P. to water surface	Date	Dist. P.P. to water surface
Dec. 19, 1930	24.8	Mar. 4, 1932	25.1
Mar. 19, 1931	25.5	Mar. 29, 1932	27.8
Aug. 6, 1931	28.4	Apr. 21, 1932	27.6
Nov. 17, 1931	26.2		

M-71 A. H. Harris

Location and Description: Near southwest corner of Sec. 23, T.10 N., R.3 W., S.B.B.& M. North of rock hill and east of road.
Reference Point: Top of railroad tie at ground level on east side of curb.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. P.P. to water surface
Sept. 19, 1930	26.9	Mar. 10, 1932	28.0
Dec. 19, 1930	26.9	Mar. 29, 1932	28.2
June 4, 1931	27.4	Dec. 22, 1932	28.5
Aug. 11, 1931	28.0		

M-72 G. Podgett

Location and Description: Near northeast corner of SW¼, Sec. 6, T.9 N., R.2 W., S.B.B.& M. At northeast corner of dirt reservoir.
Reference Point: Top of 2" x 6" plank cover across pit 0.5 feet above ground.
Elevation of reference point: 2184.5

Date	Dist. R.P. to water surface	Date	Dist. P.P. to water surface
Jan. 17, 1930	15.5	Nov. 17, 1931	18.6
Dec. 19, 1930	17.0	Mar. 16, 1932	11.7
Aug. 12, 1931	18.2	May 4, 1932	10.6

M-72 A De Wolf

Location and Description: One-half mile south of Rucker pumping plant near river at north end of trees and in northwest corner of hay field and at southeast corner of reservoir.
Reference Point: Top of 12 inch casing in tie lagged pit to and including Mar. 20, 1929; then top of 2 inch cover on pit 12.56 feet above 12 inch casing in pit.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 25, 1925	*5.5	Dec. 19, 1930	18.4
Mar. 20, 1929	*7.6	May 4, 1932	13.2

* Measurement from W. P. Rowe.

M-73

Location and Description: In southeast corner of $SW\frac{1}{4}$ of $SW\frac{1}{4}$, Sec. 31, T.10 N., R.2 W., S.B.B.& M.
Use: Irrigation.
Reference Point: Top of casing under pump at air line 0.8 feet above ground.
Elevation of reference point: 2183.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 19, 1930	21.0	Aug. 19, 1931	21.6
Dec. 19, 1930	19.1	Mar. 16, 1932	17.3

M-74 J. D. Rich

Location and Description: In southeast corner of $SW\frac{1}{4}$ of $SW\frac{1}{4}$, Sec. 30, T.10 N., R.2 W., S.B.B.& M.
Use: Domestic
Reference Point: Top of wood clamp 0.47 feet above top of cement pipe casing which is 1.5 feet above ground.
Elevation of reference point: 2179.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	20.1	Mar. 29, 1932	a 21.9
Dec. 19, 1930	20.8	Apr. 21, 1932	a 22.4
Mar. 27, 1931	21.6	May 12, 1932	a 21.8
Aug. 13, 1931	22.3	July 6, 1932	b 25.1
Nov. 17, 1931	22.4	Jan. 11, 1933	20.6
Mar. 4, 1932	21.4	Jan. 10, 1934	20.9

a - Pumping nearby
b - Windmill pumping slowly

Table 43, continued

M-75 Mrs. Loftus

Location and Description: In northeast corner of SE¼ of SW¼, Sec. 19, T.10 N., R.2 W., S.B.B.& M. New well on side hill north of school.
Use: Domestic.
Reference Point: Top of wood clamp 0.62' x 0.62' on casing which is at ground level.
Elevation of reference point: 2217.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	63.2	Mar. 10, 1932	64.5
Dec. 19, 1930	63.6	July 6, 1932	a 67.1
May 21, 1931	63.9	Jan. 11, 1933	64.9
Aug. 13, 1931	64.2		

a - Windmill pumping.

M-76 School House

Location and Description: In southeast corner of Sec. 30, T.10 N., R. 2 W., S.B.B.& M.
Use: Domestic
Reference Point: Top of 4" x 4" wood clamp which is 0.33 feet above casing top and 2.33 feet above concrete slab.
Elevation of reference point: 2177.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	18.0	Mar. 10, 1932	20.3
Dec. 19, 1930	19.0	Apr. 21, 1932	20.0
May 21, 1931	19.4	May 12, 1932	19.8
Aug. 13, 1931	19.8	July 6, 1932	18.9
Nov. 17, 1931	20.2		

M-77

Location and Description: Near center of north line of NW¼ of NE¼, Sec. 32, T.10 N., R.2 W., S.B.B.& M. Pit in old lake bed on south side of highway. Casing in bottom.
Reference Point: Top of wood curb on north side at ground level.
Elevation of reference point: 2171.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	13.0	May 21, 1931	16.5
Sept. 19, 1930	13.6	Aug. 13, 1931	16.7
Dec. 19, 1930	14.0	July 6, 1932	14.8

Table 43, continued

M-78 S. S. Hill

Location and Description: Near center of west line of $NW\frac{1}{4}$ of $NW\frac{1}{4}$, Sec. 4, T.9 N., R.2 W., S.B.B.& M.
Use: Irrigation.
Reference Point: Top of circular concrete pit.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 26, 1925	* 14.4	Mar. 16, 1932	a 16.5
Dec. 18, 1928	* 14.6		

* Measurement from W. P. Rowe.
a - Pumping.

M-79 A. L. Sloan

Location and Description: In northwest corner of Sec. 3, T.9 N., R.2 W., S.B.B.& M.
Use: Irrigation.
Reference Point: Underside of 2 inch timber under concrete sill on south wall 9.32 feet above top of casing.
Elevation of reference point: 2150.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	12.7	Nov. 24, 1931	14.2
Dec. 19, 1930	13.5	Mar. 16, 1932	11.4
May 20, 1931	13.7	May 12, 1932	11.0

M-80

Location and Description: Near center of $SW\frac{1}{4}$ of $SE\frac{1}{4}$, Sec. 35, T.10 N., R.2 W., S.B.B.& M. South of highway and north of railroad at tall vitrified tight staved pipe.
Use: Not used.
Reference Point: Top of 8" x 8" timber on east side of pit.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	8.8	Mar. 16, 1932	8.1
Dec. 19, 1930	9.7	Mar. 29, 1932	8.0
May 21, 1931	9.5	May 12, 1932	8.1
Aug. 12, 1931	10.3	Jan. 11, 1933	9.2
Nov. 24, 1931	10.8		

Table 43, continued

M-81

Location and Description: Near northeast corner of SE¼ of SW¼, Sec. 36, T.10 N., R.2 W., S.B.B.& M.
Use: Domestic.
Reference Point: Top of 2" x 4" door sill 0.5 feet above average ground.
Elevation of reference point: 2110.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	8.7	Oct. 7, 1931	a 10.9
Dec. 19, 1930	9.1	Nov. 24, 1931	9.9
May 21, 1931	9.7	Mar. 16, 1932	a 7.6
Aug. 13, 1931	10.7	May 13, 1932	8.2

a - Windmill pumping.

M-82 Water Co. in Barstow

Location and Description: Near center of west line of NW¼ of NE¼, Sec. 6, T.9 N., R.1 W., S.B.B.& M. At old ice plant between tracks. Southwest of Standard Oil Co. station.
Use: Not used.
Reference Point: Top of 18 inch casing 0.34 feet below base of pump at floor level of house.
Elevation of reference point: 2094.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 19, 1930	10.7	Apr. 27, 1932	a 7.0
Dec. 19, 1930	a 9.4	May 10, 1932	a 7.3
May 27, 1931	a 9.5	Aug. 8, 1932	8.0
Aug. 13, 1931	10.5	Nov. 15, 1932	8.4
Nov. 24, 1931	10.0	Jan. 23, 1934	a 8.2
Mar. 17, 1932	a 7.5		

a - Pumping 300 feet northwest.

M-83 M. E. Richardson

Location and Description: Near southeast corner of SW¼ of SE¼, Sec. 30, T.10 N., R.1 W., S.B.B.& M. At big cottonwood.
Use: Domestic.
Reference Point: Top of concrete foundation for pump 1.1 feet above ground.
Elevation of reference point: 2152.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	72.1	May 27, 1931	73.6
Dec. 19, 1930	73.3	Aug. 13, 1931	74.2

M-84 Mrs. Gilham

Location and Description: In southeast corner of NE¼ of NW¼, Sec. 31, T.10 N., R.1 W., S.B.B.& M. In engine house at tank on west side of street.
Use: Domestic and irrigation.
Reference Point: Hole in pump base 0.5 feet above top of concrete foundation.
Elevation of reference point: 2130.7

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 4, 1930	48.6	Apr. 27, 1932	47.1
Dec. 19, 1930	49.6	May 10, 1932	47.0
May 27, 1931	50.1	Aug. 8, 1932	48.8
Aug. 13, 1931	51.0	Nov. 15, 1932	48.7
Mar. 16, 1932	47.8		

M-85 E. M. Hawes

Location and Description: In southeast corner of NE¼, Sec. 31, T.10 N., R.1 W., S.B.B.& M. Across from old Chas. Mitchel house.
Use: Domestic.
Reference Point: Top of 2 inch clamp on cylinder at average ground level.
Elevation of reference point: 2094.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 20, 1919	* 11.6	Mar. 17, 1932	9.0
Apr. 4, 1930	10.0	Apr. 27, 1932	8.4
Dec. 19, 1930	a 11.5	May 10, 1932	8.3
May 7, 1931	11.9	Aug. 8, 1932	10.6
Aug. 13, 1931	12.7	Nov. 15, 1932	10.4
Oct. 7, 1931	12.7	Jan. 23, 1934	10.2

* Measurement from W.S.P.578, page 435, well 60.
a - Pumping 300 feet south.

Table 43, continued

M-86 A.B.Jenson

Location and Description: In southwest corner of NW¼ of SE¼, Sec. 31, T.10 N., R.1 W., S.B.B.& M. South of old road to Hinkley.
Reference Point: Top of 2" x 12" across pit at ground level, and 5.0 feet above top of 12 inch casing.
Elevation of reference point: 2097.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 6, 1928	*15.3	Mar. 17, 1932	10.1
May 30, 1930	15.3	Apr. 27, 1932	9.7
Dec. 19, 1930	13.4	May 10, 1932	9.8
May 27, 1931	14.1	Aug. 8, 1932	12.4
Aug. 13, 1931	14.0	Nov. 15, 1932	12.2
Oct. 7, 1931	13.9		

* Measurement from W. P. Rowe.

M-87 Compton

Location and Description: In SW¼ of NE¼, Sec. 32, T.10 N., R.1 W., S.B.B.& M. This is old pumping plant near house. Red iron pump house.
Reference Point: Top of 8" x 16" stringer across big pit at about average ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Mar. 13, 1927	*11.3	Nov. 24, 1931	15.6
Oct. 11, 1927	*14.3	Mar. 23, 1932	13.1
May 30, 1930	15.0	May 26, 1932	a 13.0
June 21, 1931	14.7		

* Measurement from W. P. Rowe.
a - Pumping.

M-88 Sandoz

Location and Description: In NW¼ of NW¼, Sec. 33, T.10 N., R.1 W., S.B.B.& M. Old windmill north of highway.
Use: Not used.
Reference Point: Top of 4" x 4" wood clamp on 4" x 6" clamps 0.65 feet above top of 12 inch casing and 1.6 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 30, 1930	30.3	Nov. 24, 1931	31.8
Jan. 31, 1931	30.8	Mar. 23, 1932	29.5

Table 43, continued

M-89

Location and Description: In NE¼ of NW¼, Sec. 4, T.9 N., R.1 W., S.B.B.& M. Well in field near concrete box.
Reference Point: Top of 8 inch screw casing in pit at old pumping plant 4.7 feet below average ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 30, 1930	5.2	Jan. 21, 1931	Filled

M-90 L. P. Haney

Location and Description: In NW¼ of NE¼, Sec. 4, T.9 N., R.1 W., S.B.B.& M.
Use: Not used.
Reference Point: Top of 7 inch galvanized iron casing on well in duck pond, 1.3 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 11, 1927	*4.0	May 30, 1930	6.5
Oct. 6, 1928	*5.8	Jan. 21, 1931	7.0

* Measurement from W. P. Rowe.

M-91 R. Harlan

Location and Description: In NW¼ of NW¼, Sec. 10, T.9 N., R.1 W., S.B.B.& M. This is old pumping plant in tie house south of large concrete reservoir.
Reference Point: Top of railroad tie curb on north 1.4 feet above ground and 6.25 feet above top of casing in pit.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
June 12, 1924	*11.4	Nov. 24, 1931	16.0
Sept. 12, 1925	*13.4	Mar. 23, 1932	8.8
Oct. 11, 1927	* 9.8	May 1, 1932	b 6.
Oct. 6, 1928	*12.9	May 26, 1932	7.1
May 30, 1930	a 28.0	Nov. 15, 1932	10.1
Jan. 21, 1931	14.9		

* Measurement from W. P. Rowe.
a - Pumping
b - Measurement from owner.

Table 43, continued

M-92 Gibbs

Location and Description: In NE¼ of NE¼, Sec. 10, T.9 N., R.1 W., S.B.B.& M. About 200 feet south of house.
Use: Irrigation.
Reference Point: Top of square wood curb in underground house for pump. 7.3 feet below cover on pit.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 12, 1925	* 10.	Nov. 24, 1931	10.7
Oct. 11, 1927	* 4.7	Mar. 23, 1932	5.2
Oct. 6, 1928	* 7.8	May 26, 1932	3.2
May 30, 1930	9.9	Nov. 15, 1932	5.1
Jan. 21, 1931	10.2		

* Measurement from W. P. Rowe.

M-92 A

Location and Description: In NE¼ of NE¼, Sec. 10, T.9 N., R.1 W., S.B.B.& M. 600 feet southwest of M-92
Reference Point: Top of 12 inch casing in tie curbed pit 4.6 feet below top.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 6, 1928	*8.5	Mar. 23, 1932	5.2
May 30, 1930	10.2	May 26, 1932	3.7
June 21, 1931	10.1	Nov. 15, 1932	5.4

* Measurement from W. P. Rowe.

M-93

Location and Description: In NW¼ of NW¼, Sec. 11, T.9 N., R.1 W., S.B.B.& M. This is the "Fish Pond", a well known watering place on the old overland road. There was always water here. Only one small dug hole with water. No fish.
Use: Domestic.
Reference Point: Top of two 6" x 6" timber bridge across fish pond.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 30, 1930	8.7	Nov. 24, 1931	9.2
Jan. 21, 1931	8.6		

Table 43, continued

M-94 Stone

Location and Description: Near center of S½ of NE¼, Sec. 11, T.9 N., R.1 W., S.B.B.& M.
Reference Point: Top of 6" x 14" timber at windmill east of house, 0.5 feet above ground and 1.7 feet above top of casing.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 12, 1925	* 21.3	May 30, 1930	17.5 dry
Oct. 11, 1927	* dry		

* Measurement from W. P. Rowe.

M-96 C.A.Leak

Location and Description: In northeast corner of Sec. 8, T.9 N., R.1 W., S.B.B.& M. At hog farm on State Highway east of Barstow. Small concrete lined reservoir just west of well. Tank south of well.
Use: Domestic.
Reference Point: Top of casing level with top of concrete slab, 0.5 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 23, 1919	* 98.5	Aug. 13, 1931	a 98.0
May 24, 1922	** 84.2	Mar. 17, 1932	a 93.3
Sept. 19, 1930	93.6	May 11, 1934	a 94.1

* Measurement from W.S.P.578, page 435, well 66; and page 471, well 149.
a - Windmill pumping.
** Measurement from W. P. Rowe.

M-97 Greystone Auto Camp.

Location and Description: In NW¼ of SW¼, Sec. 10, T.9 N., R.1 W., S.B.B.& M.
Use: Domestic.
Reference Point: Top of wood planks 0.14 feet above top of casing, and 0.8 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 19, 1930	59.4	Apr. 28, 1932	51.2
Mar. 17, 1932	a 52.3		

a - Windmill pumping.

Table 43, continued

M-98

Location and Description: In SW¼ of SW¼ of Sec. 12, T.9 N., R.1 W., S.B.B.& M.
Reference Point: Top of 12 inch casing in box at Van Dyke ditch just below sand box gate.
Elevation of reference point: 1994.8

Date	Dist. R.P. to water surface	Date	Dist. P.P. to water surface
Feb. 21, 1930	12.0	May 30, 1930	12.7
Mar. 7, 1930	11.0	Jan. 21, 1931	13.8
Mar. 19, 1930	11.1	Aug. 13, 1931	15.1
Apr. 16, 1930	12.3	Nov. 23, 1931	15.1
Apr. 23, 1930	12.3	Feb. 16, 1932	7.3

M-99 Mamantain

Location and Description: In NE¼ of NE¼ of Sec. 13, T.9 N., R.1 W., S.B.B.& M. Just north of Van Dyke ditch - 200 feet west of Range line and at end of pipe line to tank on sand hill.
Use: Not used.
Reference Point: Top of sill of curb of dug well with casing on south side at ground level.
Elevation of reference point: 1993.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 12, 1925	* 18.5	Feb. 27, 1930	22.8
Feb. 16, 1927	* 13.3	May 30, 1930	23.3
Oct. 11, 1927	* 8.9	Jan. 21, 1931	Dry
Oct. 6, 1928	* 17.6		

* Measurement from W. P. Rowe.

Table 43, continued

M-100 F. Byerse

Location and Description: In NW¼ of NE¼, Sec. 13, T.9 N., R.1 W., S.B.B.& M. Gas engine in galvarized iron pump house.
Reference Point: Top of 12 inch casing in pit 8.87 feet below bottom of tie cover which is 0.4 feet above ground.
Elevation of reference point: 1992.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 12, 1925	* 4.0	Oct. 23, 1928	* 14.0
Mar. 20, 1926	* 14.8	Jan. 20, 1930	18.5
Feb. 16, 1927	* 9.4	Feb. 27, 1930	17.8
Feb. 28, 1927	* 0	May 30, 1930	18.5
May 12, 1927	* 0	Jan. 21, 1931	19.6
June 22, 1927	* 1.3	Aug. 13, 1931	21.3
Oct. 11, 1927	* 5.0	Nov. 13, 1931	21.2
Sept. 23, 1928	* 13.5	Feb. 16, 1932	12.3

* Measurement from W. P. Rowe.

M-101 Merrel

Location and Description: In southeast corner of Sec. 1, T.7 N., R.5 W., S.B.B.& M. On bank at edge of active channel.
Reference Point: Top of 8 foot concrete curb 1.0 foot below average ground.
Elevation of reference point: 2477.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 4, 1930	27.8	Mar. 8, 1932	25.5
Mar. 19, 1931	25.8	May 26, 1932	26.0
May 20, 1931	26.1	July 6, 1932	26.4
Aug. 5, 1931	27.6	Dec. 8, 1932	26.2
Nov. 5, 1931	26.4		

Table 43, continued

M-105 Jones

Location and Description: In NW¼ of NW¼, Sec. 30, T.6 N., R.4 W., S.B.B.& M. Hand pump at cottage above Jones house.
Use: Domestic.
Reference Point: Top of wood pump base 2.4 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 17, 1930	14.5	May 15, 1931	14.4
Dec. 20, 1930	14.4		

M-106

Location and Description: In northwest corner of NW¼ of SW¼, Sec. 2, T.7 N., R.5 W., S.B.B.& M. Fremont Trail. 1.3 miles west of sign at southeast corner of Merril clearing. Tin house 500 feet southwest of well.
Use: Not used.
Reference Point: Top end of 1" x 6" upright in well curb on south side 0.9 feet above ground.
Elevation of reference point: 2523.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 13, 1930	98.2	Aug. 5, 1931	98.1
Mar. 19, 1931	98.2	Mar. 8, 1932	98.2
May 20, 1931	98.1	July 6, 1932	98.2

Table 43, continued

L-1 B. A. Funk

Location and Description: Southwest corner of NW¼, Sec. 18, T.9 N., R.1 E., S.B.B.& M. South side of Van Dyke Ditch above Greer's ranch.
Use: Irrigation.
Reference Point: Top of 4" x 6" well curb on south side at average ground level.
Elevation of reference point: 1996.8

Date	Dist. R.P. to water surface	Date	Dist. R. P. to water surface
Sept. 12, 1925	* 25.8	Mar. 19, 1930	30.1
Mar. 21, 1926	* 26.0	Apr. 16, 1930	32.0
Feb. 16, 1927	* 20.0	May 7, 1930	30.8
May 12, 1927	* 10.3	May 29, 1930	30.8
June 22, 1927	* 10.8	Jan. 21, 1931	30.8
Oct. 11, 1927	* 15.2	Apr. 23, 1931	32.3
Nov. 23, 1928	* 25.8	Aug. 12, 1931	33.2
Dec. 12, 1928	* 25.8	Nov. 23, 1931	33.7
Jan. 20, 1930	29.6	Feb. 16, 1932	25.9
Feb. 21, 1930	30.0	Apr. 6, 1932	11.4
Feb. 27, 1930	30.0	Mar. 30, 1934	24.9
Mar. 7, 1930	30.0		

* Measurement from W. P. Rowe.

L-2 R. Greer

Location and Description: In northeast corner of SW¼, Sec. 18, T.9 N., R.1 E., S.B.B.& M. North side of Van Dyke Ditch and west of house.
Use: Domestic.
Reference Point: Top of 12 inch casing in pit 7.2 feet below top of curb at ground level and 8.4 feet below top of 2" x 6" timber across pit.
Elevation of reference point: 1984.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 23, 1919	* 17.7	Jan. 22, 1920	* 18.0
Dec. 10, 1919	* 17.3	Apr. 7, 1924	12.3

* Measurements from W.S.P. 578, page 490, well 42.

Table 43, continued

L-3 R. Greer

Location and Description: In northeast corner of SW¼, Sec. 18, T.9 N., R.1 E., S.B.B.& M. Just south of center of Sec. 18 and north of Greer's house.
Use: Domestic.
Reference Point: 1 inch board around suction pipe of small pump at ground level 1.8 feet above 12 inch casing in pit.
Elevation of reference point: 1986.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 7, 1924	* 17.5	Oct. 11, 1927	* 12.5
June 12, 1924	* 18.5	Sept. 23, 1928	* 22.9
Aug. 12, 1925	* 19.3	Feb. 27, 1930	27.7
Feb. 16, 1927	* 18.4	May 29, 1930	28.5
May 12, 1927	* 5.3	Jan. 20, 1931	27.8
June 22, 1927	* 7.0		

* Measurement from W. P. Rowe.

L-4

Location and Description: In southwest corner of SW¼, Sec. 16, T.9 N., R.1 E., S.B.B.& M. Old well near Borax Works.
Use: Not used.
Reference Point: Top of wooden curb on east side 3.0 feet above ground level.
Elevation of reference point: 1994.0

Date	Dist. R.P. to water surface	Date	Dist.R..P to water surface
Sept. 13, 1917	* a 55.2	Jan. 22, 1920	* b 88.5
Feb. 16, 1918	* 76.2	Feb. 16, 1927	** 71. Dry
Oct. 23, 1919	* 86.0	May 29, 1930	61. Dry
Dec. 10, 1919	* 86.5		

* Measurements from W.S.P. 578, page 490, Well 45.
a - The accuracy of this measurement is questionable.
b - Pumping.
** Measurement from W. P. Rowe.

Table 43, continued

L-5 B. Lamantain

Location and Description: In northeast corner of NW¼, Sec. 21, T.9 N., R.1 E., S.B.B.& M. In town of Daggett.
Use: Domestic.
Reference Point: Top 2" x 12" redwood curb 2.5 feet above ground on east side and 1.67 feet above top 4" x 6" timber bolted through derrick.
Elevation of reference point: 1994.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 24, 1919	* 78.5	Dec. 16, 1922	** 56.9
Jan. 22, 1920	* 86.0	Feb. 16, 1927	** 82.4
May 24, 1922	** 56.8	May 29, 1930	84.5
Sept. 15, 1922	** 60.7	Jan. 20, 1931	97.4

* Measurement from W.S.P. 578, page 490, Well 46, corrected for change in reference point.

** Measurement from W. P. Rowe.

L-6 Van Dyke

Location and Description: Near center of NW¼, Sec. 22, T.9 N., R.1 E., S.B.B.& M. Near Van Dyke entrance to ranch.
Use: Domestic.
Reference Point: Top of casing on east side, level with ground surface.
Elevation of reference point: 1969.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 25, 1919	* 75.0	Aug. 13, 1925	** 76.0
May 24, 1922	** 47.0	Feb. 20, 1930	70.7
Sept. 14, 1922	** 50.2	May 22, 1930	73.3
Dec. 16, 1922	** 57.7	Apr. 22, 1931	80.9
Jan. 22, 1925	** 74.7	Aug. 12, 1931	76.8

* Measurement from W.S.P. 578, page 466, Well 47.
** Measurement from W. P. Rowe.

Table 43, continued

L-7 Town of Daggett

Location and Description: Near center of SW¼, Sec. 16, T.9 N., R.1 E., S.B.B.& M. New well in wash. Derrick at galvanized pump house.
Use: Municipal.
Reference Point: Top of 2 inch curb on east side 1.9 feet above ground surface.
Elevation of reference point: 1977.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 29, 1930	82.0	Aug. 12, 1931	83.2
Jan. 20, 1931	83.0	Nov. 23, 1931	83.3

L-8

Location and Description: Center of west line of NW¼, Sec. 24, T.9 N., R.1 E., S.B.B.& M. Near Catick's ranch.
Reference Point: Top of 6 inch casing at wood clamp 0.5 feet above ground.
Elevation of reference point: 1953.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 20, 1930	71.8	July 21, 1932	71.7
May 22, 1930	72.3	Jan. 11, 1933	72.2
Mar. 17, 1932	74.7	Jan. 23, 1934	74.3

L-9 Chester Swan

Location and Description: Near center of east line of NE¼, Sec. 24, T.9 N., R. 1 E., S.B.B.& M. West of house near section line.
Use: Not used.
Reference Point: Top of 8 inch casing 0.7 feet above ground.
Elevation of reference point: 1944.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 24, 1919	* 51.0	Dec. 16, 1922	** 51.1
Jan. 22, 1920	* 58.9	June 13, 1924	** 56.0
May 22, 1922	** 52.4	Sept. 13, 1925	** 58.2
Sept. 12, 1922	** 50.5	Feb. 20, 1930	57.6 Dry

*Measurement from W.S.P. 578, page 490, Well 48.
** Measurement from W. P. Rowe.

Table 43, continued

L-9 A — Chester Swan

Location and Description: Near center of east line of NE¼, Sec. 24, T.9 N., R.1 E., S.B.B.& M. 30 feet south of L-9.
Reference point: Cover at ground level under 12" x 12" timber.
Elevation of reference point: 1943.6

Date	Dist. P.P. to water surface	Date	Dist. R.P. to water surface
Feb. 20, 1930	64.0	Dec. 7, 1931	68.1

L-10 — E. D. Barry

Location and Description: Near northwest corner of SW¼, Sec. 20, T.9 N., R.2 E., S.B.B.& M. Just north of compressor and 50 feet north of 36 inch well.
Use: Domestic.
Reference Point: Top 24 inch casing 0.5 feet above ground.
Elevation of reference point: 1927.5

Date	Dist. P.P. to water surface	Date	Dist. R.P. to water surface
Oct. 24, 1919	* 48.0	Jan. 22, 1931	52.4
Oct. 1, 1925	** 46.8	May 7, 1931	52.8
Mar. 13, 1926	** 46.5	Mar. 17, 1932	53.6
Mar. 6, 1927	** 48.3	July 13, 1932	52.6
May 5, 1928	** 48.3	Oct. 5, 1932	52.6
Sept. 12, 1928	** 48.8	Feb. 14, 1934	53.8
May 22, 1930	51.4		

* Measurement from W.S.P. 578, page 467, Well 61.
** Measurement from W. P. Rowe.

L-10 A — E. D. Barry

Location and Description: Near northwest corner of SW¼, Sec. 20, T.9 N., R.2 E., S.B.B.& M. 50 feet west of L-10.
Use: Irrigation.
Reference Point: Top of 16 inch casing 2.0 feet above ground.
Elevation of reference point: 1929.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 22, 1930	53.4	July 13, 1932	54.6
May 7, 1931	54.8	Oct. 5, 1932	54.6
Mar. 17, 1932	55.5	Feb. 14, 1934	56.0

L-11 Minneola Service Station.

Location and Description: Near center of Sec. 28, T.9 N., R.2 E., S.B.B.& M. 800 feet south of Minneola Service Station.
Use: Domestic.
Reference Point: Top of 12" x 12" timber on south side of pit at ground level and 0.95 feet above iron casing.
Elevation of reference point: 1908.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 29, 1930	36.2	Apr. 28, 1932	37.8
Dec. 7, 1931	38.1	Sept. 23, 1932	37.6

L-12 F. H. Webber

Location and Description: Near center of west line of NW¼, Sec. 27, T.9 N., R.2 E., S.B.B.& M. 30 feet east of house.
Use: Domestic.
Reference Point: Top of 2" x 6" wood clamp 0.15 feet above top of casing and 0.5 feet above ground.
Elevation of reference point: 1900.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 23, 1922	* 27.1	Oct. 9, 1930	31.3 dry
Sept. 12, 1922	* 26.0	Jan. 22, 1931	31.8
Dec. 16, 1922	* 26.0	May 7, 1931	32.2
Feb. 20, 1930	30.4	Apr. 21, 1932	32.6
May 22, 1930	30.6		

* Measurement from W. P. Rowe.

L-13 D. E. Thompson.

Location and Description: In northwest corner of SE¼, Sec. 27, T.9 N., R.2 E., S.B.B.& M. Northwest corner of field at south edge of State Highway.
Reference Point: Top of 36 inch iron casing 1.5 feet above ground.
Elevation of reference point: 1903.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 1, 1917	* 29.9	May 29, 1930	34.8
Oct. 25, 1919	* 31.2	Jan. 21, 1932	36.3
May 23, 1922	** 31.5	Apr. 28, 1932	36.1
Mar. 13, 1926	** 31.9	July 13, 1932	36.1
Feb. 24, 1929	** 33.6	Sept. 23,1932	36.1
Feb. 20, 1930	34.5		

* Measurement from W.S.P. 578, page 490, Well 71.
** Measurement from W. P. Rowe.

Table 43, continued

L-14 T. Taylor Estate

Location and Description: Near center of west line of NW¼, Sec. 26, T.9 N., R.2 E., S.B.B.& M. Pumping plant north of house and northwest of barn with mortise and tenon joints.
Use: Not used.
Reference Point: 3 notches in 8" x 8" timber across wood at northeast corner of pit at ground level.
Elevation of reference point: 1890.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 30, 1919	* 20.6	Jan. 22, 1931	24.2
May 8, 1930	23.8		

* Measurement from W.S.P. 578, page 467, Well 75.

L-15 Miller

Location and Description: In northwest corner of SE¼, Sec. 24, T.9 N., R.2 E., S.B.B.& M.
Use: Domestic.
Reference Point: Top of 10 inch casing in unlined pit 4 feet deep and 10.84 feet below first horizontal brace on windmill tower.
Elevation of reference point: 1859.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 8, 1930	3.8	May 7, 1931	6.1
Oct. 9, 1930	4.3	Feb. 26, 1932	4.2
Jan. 22, 1931	4.2	Apr. 27, 1932	5.2

L-15 A

Location and Description: In northwest corner of SE¼, Sec. 24, T.9 N., R.2 E., S.B.B.& M. 10 feet south of L-15
Reference Point: Top of 30 inch iron casing in pump house.
Elevation of reference point: 1857.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 8, 1930	2.5	May 7, 1931	a 3.2
May 22, 1930	2.6	Feb. 6, 1932	2.9
Oct. 9, 1930	3.1	Apr. 27, 1932	2.8
Jan. 22, 1931	2.8	July 13, 1932	3.6

a - Windmill pumping.

Table 43, continued

L-16 Frey

Location and Description: Near center of SW¼, Sec. 19, T.9 N., R.3 E., S.B.B.& M. East of adobe house and south of adobe engine house.
Use: Not used.
Reference Point: Top of 12 inch casing (split) 2.0 feet above ground near concrete water box.
Elevation of reference point: 1858.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 10, 1919	* Flowing	May 7, 1931	2.3
May 22, 1922	** Flowing	Apr. 27, 1932	2.2
May 8, 1930	1.6	July 13, 1932	2.6
May 22, 1930	1.7	July 11, 1933	2.7
Oct. 9, 1930	2.2	Feb. 14, 1934	3.3
Jan. 22, 1931	2.2		

* Measurement from W.S.P. 578, page 468, Well 85.
** Measurement from W. P. Rowe.

L-16 A Edwards

Location and Description: Near center of west line of NW¼, Sec. 19, T.9 N., R.3 E., S.B.B.& M.
Use: Old Edwards well to irrigate beyond dunes.
Reference Point: Top of 12 inch casing.
Elevation of reference point: 1860.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 22, 1922	* Flowing	May 7, 1931	2.4
May 8, 1930	1.4	Feb. 26, 1932	2.2
May 22, 1930	1.5	Apr. 27, 1932	2.0
Jan. 22, 1931	1.8	July 13, 1932	2.4

* Measurement from W. P. Rowe.

Table 43, continued

L-17 Hatch

Location and Description: In northeast corner of SE¼, Sec. 30, T.9 N., R.3 E., S.B.B.& M. Southwest of house.
Use: Domestic.
Reference Point: Top of wood cover with hand pump 0.3 feet above concrete curb 1.3 feet above ground.
Elevation of reference point: 1852.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 10, 1919	* Flowing	Jan. 22, 1931	2.2
May 22, 1922	** Flowing	May 7, 1931	2.3
May 8, 1930	1.9	Apr. 24, 1932	2.0

*Measurement from W.S.P. 578, page 468, Well 87.
** Measurement from W. P. Rowe.

L-18 Berden

Location and Description: Near center of east line of NE¼, Sec. 32, T.9 N., R.3 E., S.B.B.& M. In rear of store at Newberry north of railroad.
Use: Not used.
Reference Point: Top of 7 inch galvanized iron casing 0.5 feet above ground.
Elevation of reference point: 1835.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 23, 1922	* 4.9	May 23, 1932	3.7
Feb. 20, 1930	4.4	Apr. 27, 1932	4.1
May 8, 1930	4.2		

* Measurement from W. P. Rowe.

L-18 A Berden

Location and Description: Near center of east line of NE¼, Sec. 32, T.9 N., R.3 E., S.B.B.& M. Just south of L-18.
Use: Domestic.
Reference Point: Top of 9 inch casing 1.2 feet above ground level.
Elevation of reference point: 1836.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 20, 1930	5.6	Apr. 27, 1932	5.4
Dec. 7, 1931	6.0	Jan. 11, 1933	5.9
May 23, 1932	5.0		

L-19 Klinkenbeard.

Location and Description: In northwest corner of NW¼, Sec. 34, T.9 N., R.3 E., S.B.B.& M.
Reference Point: Top of wood curb 0.3 feet above well cover which is at ground level.
Elevation of reference point: 1827.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 18, 1919	* 29.4	Mar. 23, 1932	28.6
May 22, 1922	** 29.2	Apr. 27, 1932	28.5
Feb. 28, 1930	28.2	Feb. 14, 1934	29.2

*Measurement from W.S.P. 578, page 469, Well 111, corrected for change in reference point.
** Measurement from W. P. Rowe.

L-20 Dr. Lyle Graham

Location and Description: Near northwest corner of NE¼, Sec. 4, T.8 N., R.3 E., S.B.B.& M. At northeast corner of reservoir. 10 feet west of L-21.
Use: Irrigation.
Reference Point: Top of 3 foot concrete curb.
Elevation of reference point: 1821.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 15, 1930	Flowing	Feb. 26, 1932	Flowing
June 5, 1931	Flowing	Apr. 28, 1932	Flowing
Dec. 7, 1931	Flowing	Feb. 15, 1933	Flowing

L-21 Dr. Lyle Graham

Location and Description: Near northwest corner of NE¼, Sec. 4, T.8 N., R.3 E., S.B.B.& M. Red windmill tower with Aermotor windmill at northeast corner of reservoir, and 10 feet east of L-20.
Use: Irrigation.
Reference Point: Top of 10 inch casing inside of 12 inch casing at ground level.
Elevation of reference point: 1819.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 20, 1930	2.3	Dec. 7, 1931	3.0
Apr. 15, 1930	2.4	Feb. 26, 1932	0.5
June 5, 1931	2.9	Apr. 28, 1932	2.7

Table 43, continued

L-22 Dr. Lyle Graham.

Location and Description: Near northwest corner of NE¼, Sec. 4, T.8 N., R.3 E., S.B.B.& M. Well at west end of pump house. South of L-20.
Use: Irrigation and Domestic.
Reference Point: Floor level of concrete pit at ground level.
Elevation of reference point: 1819.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 22, 1922	* 3.1	June 5, 1931	3.3
Sept. 13, 1922	* 4.5	Dec. 7, 1931	3.4
Dec. 16, 1922	* 3.6	Jan. 21, 1932	2.5
Feb. 20, 1930	2.3	Feb. 26, 1932	1.0
Apr. 15, 1930	2.3	Mar. 23, 1932	1.8
Oct. 9, 1930	4.5	Apr. 28, 1932	2.6

* Measurement from W. P. Rowe.

L-23 C. W. Beaverstock

Location and Description: In southwest corner of NW¼, Sec. 3, T.8 N., R.3 E., S.B.B.& M. Old 4 leg iron windmill tower 150 feet northeast of road intersection.
Use: Not used.
Reference Point: Top of 9 inch perforated casing at average ground level.
Elevation of reference point: 1819.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Mar. 1, 1930	4.5	Apr. 28, 1932	3.8
Apr. 15, 1930	4.0	Dec. 9, 1932	5.3
Apr. 23, 1931	3.9		

L-24

Location and Description: Near southeast corner of NW¼, Sec. 3, T.8 N., R.3 E., S.B.B.& M. Just north of small rock hill.
Reference Point: Top of 10 inch perforated casing 2.0 feet above ground.
Elevation of reference point: 1826.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 29, 1930	22.7	Apr. 28, 1932	22.4
Apr. 23, 1931	a 23.3	Dec. 9, 1932	a 23.4

a - Windmill pumping slowly.

Table 43, continued

L-25 Callender

Location and Description: Near southeast corner of SW¼, Sec. 2, T.8 N., R.3 E., S.B.B.& M. North of old road at northeast corner of small concrete reservoir, near old adobe service station.
Use: Not used.
Reference Point: Top of 12 inch casing 0.5 feet above ground.
Elevation of reference point: 1826.7

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 22, 1922	* 37.6	Apr. 23, 1931	37.7
Feb. 20, 1930	37.8	Apr. 28, 1932	38.4
Mar. 15, 1930	37.7	Dec. 9, 1932	37.6 dry.

* Measurement from W. P. Rowe.

L-26 Douglass Sayre

Location and Description: Near center of NW¼, Sec. 2, T.8 N., R.3 E., S.B.B.& M.
Reference Point: Top of 12 inch galvanized iron casing at ground level.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 20, 1930	21.5	Apr. 23, 1931	a 21.7
May 29, 1930	21.5	Apr. 28, 1932	21.4

a - Pumping

L-27 I. L. Hannan

Location and Description: In northwest corner of NW¼, Sec. 12, T.8 N., R.3 E., S.B.B.& M. At old pumping plant north of old road, no buildings.
Reference Point: Top of wood curb at ground level at northeast corner of pit.
Elevation of reference point: 1813.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 26, 1919	* 27.4	Apr. 23, 1931	26.6
Feb. 20, 1930	27.5	Apr. 28, 1932	26.8

* Measurement from W.S.P. 578, page 470, Well 130.

Table 43, continued

L-28 C. E. Burckhartt

Location and Description: Near southwest corner of SW¼, Sec. 7, T.8 N., R.4 E., S.B.B.& M. Old pumping plant in athel grove.
Use: Not used.
Reference Point: Top of 36 inch perfordted iron casing 1.4 feet above ground.
Elevation of reference point: 1820.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 20, 1930	37.5	Apr. 23, 1931	37.6
Apr. 15, 1930	37.6	Jan. 28, 1932	37.4
May 29, 1930	37.6	Apr. 28, 1932	37.4

L-28 A George C. Shafer

Location and Description: Near southwest corner of NW¼, Sec. 7, T.8 N., R.4 E., S.B.B.& M.
Reference Point: Top of 36 inch casing, 0.2 feet above ground.
Elevation of reference point: 1803.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 11, 1919	* 25.1	Jan. 28, 1932	22.8
May 22, 1922	** 24.5	Apr. 28, 1932	24.3
May 29, 1930	23.4	June 23, 1932	23.3
Apr. 23, 1931	24.5	Dec. 8, 1932	23.0

* Measurement from W.S.P. 578, page 471, Well 135.
** Measurement from W. P. Rowe.

L-29 Midway Service Station

Location and Description: Near southeast corner of NW¼, Sec. 18, T.8 N., R.4 E., S.B.B.& M. Well at tall tank on railroad tie cribbed support south of old highway at bend in road.
Use: Not used.
Reference Point: Bottom of 1½ inch pipe opening in plunger pump and 1.8 feet above top of casing.
Elevation of reference point: 1831.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 15, 1930	49.7		

Table 43, continued

L-29 A Van Doren

Location and Description: Near southwest corner of NW¼, Sec. 18, T.8 N., R.4 E., S.B.B.& M. 0.25 miles west of L-29.
Reference Point: Top 36 inch casing at ground.
Elevation of reference point: 1823.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Dec. 11, 1919	* 41.6	Jan. 28, 1932	41.8
May 29, 1930	41.8	Apr. 28, 1932	41.5
Apr. 23, 1931	41.7		

* Measurement from W.S.P. 578, page 471, Well 139.

L-30 Marquiss

Location and Description: In northwest corner of SW¼, Sec. 6, T.8 N., R.4 E., S.B.B.& M. 500 feet east of west line of Shafer's Ranch.
Reference Point: Top of wood curb at ground level.
Elevation of reference point: 1788.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 29, 1930	11.4	Apr. 28, 1932	10.4
Apr. 23, 1931	10.3		

L-30 A

Location and Description: Near center of west line of SE¼, Sec. 6, T.8 N., R.4 E., S.B.B.& M. Old windmill northwest of stone house.
Reference Point: Under floor boards at ground.
Elevation of reference point: 1786.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 29, 1930	9.5	Apr. 28, 1932	9.7
Apr. 23, 1931	9.3		

Table 43, continued

L-31 Anna Mae Monroe

Location and Description: Near northwest corner of SE¼, Sec. 31, T.9 N., R.4 E., S.B.B.& M.
Use: Not used.
Reference Point: Top of 12 inch casing 2.7 feet above ground.
Elevation of reference point: 1791.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 1, 1930	15.8	Apr. 28, 1932	15.4
Oct. 9, 1930	16.2	June 23, 1932	15.6
Apr. 23, 1931	16.2	Dec. 9, 1932	15.6
Jan. 28, 1932	15.6		

L-32

Location and Description: Near southwest corner of SW¼, Sec. 4, T.8 N., R.4 E., S.B.B.& M. Dug well north of new State Highway in lake bottom and south of Troy Station on railroad.
Use: Not used.
Reference Point: Top of wood curb at upright railroad tie in southwest corner of pit, level with ground.
Elevation of reference point: 1777.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface.
Feb. 20, 1930	6.0	Jan. 28, 1932	5.7
May 29, 1930	5.7	Apr. 28, 1932	5.2
Oct. 9, 1930	5.7	Dec. 9, 1932	5.9
Apr. 22, 1931	5.6		

L-34

Location and Description: In southwest corner of SW¼, Sec. 10, T.8 N., R.4 E., S.B.B.& M. North of Newberry-Hector old highway. Athel windbreak, concrete floor, no house.
Reference point: Top of 10 inch casing 0.8 feet above ground level.
Elevation of reference point: 1806.0

Date	Dist. P.P. to water surface	Date	Dist. P.P. to water surface
Apr. 15, 1930	26.8	Apr. 28, 1932	26.5
Jan. 28, 1932	26.8	Dec. 9, 1932	26.9

Table 43, continued

L-35 Geo. E. Ladd

Location and Description: In southeast corner of SE¼, Sec. 10, T.8 N., R.4 E., S.B.B.& M. Near old service station on north side of old road (Ludlow to Newberry).
Use: Domestic.
Reference Point: Top of railroad tie timber 0.5 feet above ground on south side of dug well.
Elevation of reference point: 1831.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 20, 1930	51.9	May 29, 1930	51.9

L-36

Location and Description: In SE¼ of SW¼, Sec. 11, T.8 N., R.4 E., S.B.B.& M. At old Hennessey Desert Palm Ranch.
Use: Not used.
Reference Point: Top of casing under hand pump 0.2 feet above ground.
Elevation of reference point: 1822.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 22, 1922	*42.9	May 29, 1930	43.2
Apr. 15, 1930	43.2	Apr. 28, 1932	43.2

* Measurement from W. P. Rowe.

L-36 A

Location and Description: In NW¼, Sec. 14, T.8 N., R.4 E., S.B.B.& M., ¼ mile south of L-36.
Use: Not used.
Reference Point:
Elevation of reference point: 1850.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Apr. 19, 1930	70.7	May 29, 1930	70.7
May 22, 1930	70.7	Apr. 28, 1932	Filled

Table 43, continued

L-37

Location and Description: Near center of SW¼, Sec. 12, T.8 N., R.4 E., S.B.B.& M. On south side of State Highway opposite Mojave Water Camp Service Station.
Reference Point: Top of concrete cover of pit at opening, level with ground.
Elevation of reference point: 1810.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 20, 1930	32.6	Apr. 28, 1932	32.3
Jan. 28, 1932	32.7	Dec. 9, 1932	32.6

L-42 G. Linquenfelder.

Location and Description: Near center of SW¼, Sec. 15, T.9 N., R.1 E., S.B.B.& M. North of Van Dyke's house in flat.
Reference Point: Top concrete slab at ground surface, west side of well, 5.9 feet above 12 inch casing in pit.
Elevation of reference point: 1963.7

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Aug. 14, 1925	* 69.2	Apr. 22, 1931	77.8
Apr. 15, 1926	* 71.9	Dec. 7, 1931	79.1
Feb. 16, 1927	* 74.2	Feb. 16, 1932	79.2
Oct. 10, 1927	* 69.5	Feb. 27, 1932	77.5
Oct. 21, 1928	* 70.7	Mar. 24, 1932	73.6
Feb. 1, 1930	74.4	Jan. 23, 1934	75.8
May 23, 1930	75.2		

* Measurement from W. P. Rowe.

Table 43, continued

L-43

Location and Description: Near southwest corner of NW¼, Sec. 13, T.9 N., R.1 E., S.B.B.& M. North well of two, 300 feet apart. Ties crossed and bolted 5 feet east of well.
Use: Not used.
Reference Point: Top of 12 inch casing 1.2 feet above ground.
Elevation of reference point: 1949.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 14, 1925	* 61.5	Dec. 7, 1930	71.2
Mar. 7, 1926	* 63.7	Mar. 17, 1932	69.0
Oct. 10, 1927	* 61.3	Mar. 24, 1932	68.4
Oct. 6, 1928	* 64.7	Apr. 21, 1932	66.7
May 22, 1930	68.3	Jan. 11, 1933	67.0
Jan. 22, 1930	69.7	Jan. 23, 1934	70.2

* Measurement from W. P. Rowe.

L-43 A

Location and Description: Near southwest corner of NW¼, Sec. 13, T.9 N., R.1 E., S.B.B.& M. 300 feet south of L-43.
Use: Not used.
Reference Point: Top of 12 inch casing 0.7 feet above ground.
Elevation of reference point: 1950.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 14, 1925	* 63.6	Mar. 17, 1932	69.7
Mar. 7, 1926	* 64.2	Mar. 24, 1932	69.2
Oct. 10, 1927	* 61.3	Apr. 21, 1932	67.5
May 22, 1930	68.7	Jan. 11, 1933	68.4
Jan. 22, 1930	70.1	Jan. 23, 1934	70. dry
Dec. 7, 1930	71.6		

* Measurement from W. P. Rowe.

Table 43, continued

L-45

Location and Description: Near southwest corner of NW¼, Sec. 3, T.9 N., R.1 E., S.B.B.& M. Turbine pump in open, east of wood engine house. Woven wire fence around field north of highway. Just west of old railroad to Calico.
Use: Not used.
Reference Point: Top of pump base.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 16, 1919	* 73.3	Apr. 27, 1932	77.7
May 24, 1930	76.5	Apr. 13, 1934	79.3

* Measurement from W.S.P. 578, page 465, Well 35.

L-47

Location and Description: Near northwest corner of NW¼, Sec. 12, T.9 N., R.1 E., S.B.B.& M. Plant east of house at four post wood derrick. Galvanized iron tank on crib support.
Use: Irrigation and domestic.
Reference Point: Bottom of iron pump base on 7" x 7" timber, 0.6 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 23, 1930	46.5	Mar. 30, 1934	48.8
May 4, 1932	45.6		

L-48 Tom Williams

Location and Description: Southwest corner of SW¼, Sec. 31, T.10 N., R.2 E., S.B.B.& M. 0.5 mile northeast of Yermo.
Use: Domestic.
Reference Point: Top of wood curb at ground level.
Elevation of reference point: 1924.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 11, 1919	* 45.5	May 24, 1930	43.7

* Measurement from W.S.P. 578, page 464, Well 6, corrected for change in reference point.

Table 43, continued

L-49

Location and Description: In southeast corner of SW¼. Sec. 32, T.10 N., R.2 E., S.B.B.& M. Old well and pumping plant at head of Harvard Ditch or Yermo Mutual Water Company.
Use: Not used.
Reference Point: Top of concrete base of turbine pump, 0.2 feet above ground.
Elevation of reference point: 1905.7

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 4, 1919	* 23.0	May 23, 1930	29.2
Jan. 22, 1920	* 23.0	Jan. 22, 1931	30.6
May 17, 1922	** 19.1	Sept. 24, 1931	31.8
Sept. 11, 1922	** 19.6	Apr. 27, 1932	29.6
Dec. 15, 1922	** 18.5	Feb. 22, 1933	30.0
June 5, 1924	** 21.5	Mar. 30, 1934	31.4
Dec. 5, 1929	28.9		

* Measurement from W.S.P. 578, page 490, Well 9.
** Measurement from W. P. Rowe.

L-50

Location and Description: Near northwest corner of NW¼, Sec. 4, T.9 N., R.2 E., S.B.B.& M. Water trough 6 feet south of well.
Use: Not used.
Reference point: Top of 16 inch casing 0.1 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 23, 1930	21.1	Apr. 27, 1932	21.5
Jan. 22, 1931	22.0	Mar. 30, 1934	23.3
Sept. 24, 1931	23.0		

L-51 McCormick

Location and Description: Near center of NE¼, Sec. 3, T.9 N., R.2 E., S.B.B.& M. East of house and mill near steam boiler.
Use: Domestic.
Reference Point: Top of 12 inch casing at hand pump. 0.9 feet above ground.
Elevation of reference point: 1844.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 1, 1919	* 13.3	Jan. 21, 1932	19.5
May 17, 1922	** 5.5	Apr. 27, 1932	16.7
Dec. 15, 1922	** 6.6	Jan. 11, 1933	18.6
May 23, 1930	16.5	Jan. 23, 1934	20.5
Jan. 22, 1931	19.0		
Sept. 24, 1931	20.2		

* Measurement from W.S.P. 578, page 467, Well 55a, corrected for change in reference point.
** Measurement from W. P. Rowe.

L-51 A

Location and Description: Near center of NE¼, Sec. 3, T.9 N., R.2 E., S.B.B.& M. A short distance northwest of L-51.
Reference Point: Top 12 inch casing 0.8 feet above ground.
Elevation of reference point: 1846.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Jan. 22, 1931	21.3	Apr. 27, 1932	20.0
Sept. 24, 1931	23.4	Jan. 11, 1933	22.1
Jan. 21, 1932	a 23.6	Jan. 23, 1934	24.0

a - Pumping slowly.

L-52 Fisher

Location and Description: In northwest corner of SE¼, Sec. 3, T.9 N., R.2 E., S.B.B.& M. 100 feet northwest of house. Old three leg steel tower, no mill.
Use: Domestic
Reference Point: Top of steel cover on 10 inch casing, 1.3 feet above ground.
Elevation of reference point: 1859.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 20, 1930	5.5	Sept. 24, 1931	7.9
May 23, 1930	6.3	Apr. 27, 1932	6.2
Jan. 22, 1931	5.9	Jan. 11, 1933	6.4

Table 43, continued

L-53

Location and Description: Near southwest corner of SW¼, Sec. 2, T.9 N., R.2 E., S.B.B.& M. In clearing on bench east of trees at Kouns.
Reference Point: Top 12 inch battered casing inside, and 1.9 feet below, old galvanized iron perforated casing and 0.5 feet below average ground.
Elevation of reference point: 1857.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 5, 1925	* 7.9	Jan. 22, 1931	9.8
Mar. 7, 1926	* 8.1	Aug. 26, 1931	12.2
Mar. 6, 1927	* 7.8	Feb. 26, 1932	11.7
Oct. 6, 1928	*10.9	Apr. 27, 1932	10.5
May 23, 1930	9.9	Jan. 11, 1933	10.8
Aug. 26, 1930	11.7	Jan. 23, 1934	11.1

* Measurement from W. P. Rowe.

L-54

Location and Description: Near center of SW¼, Sec. 34, T.10 N., R.2 E., S.B.B.& M. Old well just west of stand for water tank, south of Kouns - Newberry road.
Reference Point: Top of 6" x 6" hewn timber on south side of well at ground level. Casing is 1.2 feet below reference point.
Elevation of reference point: 1876.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 11, 1919	* 50.6	Sept. 24, 1931	58.9
May 17, 1922	** 47.4	Apr. 27, 1932	57.9
Dec. 15, 1922	** 47.3	Mar. 30, 1934	60.4
May 23, 1930	56.1		

* Measurement from W.S.P. 578, page 466, Well 52, corrected for change in reference point.

** Measurement from W. P. Rowe.

Table 43, continued

L-56

Location and Description: In southwest corner of SW¼, Sec. 15, T.10 N., R.3 E., S.B.B.& M., at junction of highway and road from Harvard to Coyote Lake.
Reference Point: Top of 2" x 12" curb on east side, 0.2 feet above average ground.
Elevation of reference point: 1816.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 14, 1919	* 77.8	May 11, 1932	77. dry
May 24, 1930	77.6		

* Measurement from W.S.P. 578, page 464, Well 13, corrected for change in reference point.

L-58

Location and Description: Near center of south line of NW¼, Sec. 4, T.10 N., R.3 E., S.B.B.& M. Dug well east of Harvard to Coyote Lake road.
Use: Not used.
Reference Point: Top of 4" x 4" in southeast corner of pit at average ground level.
Elevation of reference point: 1792.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 28, 1930	54.0	Apr. 13, 1934	53.9
May 11, 1932	54.0		

L-59

Location and Description: Near center of NW¼, Sec. 32, T.11 N., R.3 E., S.B.B.& M. Cased well with railroad tie for plug, east of Harvard-Coyote Lake road.
Reference Point: Top of 10 inch casing 1.0 foot above ground.
Elevation of reference point: 1786.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 28, 1930	48.2	Apr. 13, 1934	48.1
May 11, 1932	48.1		

Table 43, continued

L-60

Location and Description: Near center of SE¼, Sec. 30, T.11 N., R.3 E., S.B.B.& M. Old wooden windmill tower with steel mill near trough, west of road to Coyote Lake.
Use: Not used.
Reference Point: Top of 10 inch casing 1.9 feet above ground.
Elevation of reference point: 1782.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 28, 1930	47.2	May 11, 1932	47.2

L-62

Location and Description: In southwest corner of Sec. 7, T.9 N., R.2 E., S.B.B.& M.
Use: Not used.
Reference Point: Top of iron casing.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 24, 1919	* 51.4	Feb. 28, 1930	56. dry
Jan. 22, 1920	* 51.5	Mar. 17, 1932	56. dry
Oct. 1, 1925	** 52.2	Mar. 24, 1932	55.5
Mar. 7, 1926	** 53.2	Apr. 21, 1932	54.6
Oct. 6, 1928	** 54.4		

* Measurement from W.S.P. 578, page 490, Well 57.
** Measurement from W. P. Rowe.

L-63

Location and Description: Near center of Sec. 18, T.9 N., R.2 E., S.B.B.& M. Corner of Soap Ranch.
Reference Point: Top of 12 inch casing 1.0 foot above ground.
Elevation of reference point: 1934.7

Date	Dist. R.P. to water surface	Date	Dist. P.P. to water surface
June 13, 1924	* 48.0	Jan. 22, 1931	58.2
Sept. 13, 1925	* 52.0	Mar. 17, 1932	58.5
Mar. 15, 1926	* 50.3	Apr. 21, 1932	57.4
Mar. 3, 1927	* 52.5	Nov. 2, 1932	57.5
Sept. 12, 1928	* 54.1	Jan. 11, 1933	57.8
Feb. 28, 1930	56.7	Jan. 23, 1934	59.2
May 8, 1930	57.1		

* Measurement from W. P. Rowe.

Table 43, continued

L-64 Annie Escholtz

Location and Description: Near center of SE¼, Sec. 8, T.9 N., R.2 E., S.B.B.& M.
Use: Domestic.
Reference Point: Top of 2" x 8" cover clamp on concrete foundation, 0.2 feet above ground.
Elevation of reference point: 1915.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 28, 1919	* 35.3	Sept. 24, 1931	43.3
Oct. 1, 1925	** 37.0	Mar. 17, 1932	41.8
Sept. 12, 1928	** 39.2	Apr. 21, 1932	a 41.5
Feb. 28, 1930	41.1	Jan. 11, 1933	b 43.6
Jan. 22, 1931	43.8		

* Measurement from W.S.P. 578, page 467, Well 64a.
a - Pumping nearby.
b - Windmill pumping.
** Measurement from W. P. Rowe.

L-65 Bowles

Location and Description: In southwest corner of SW¼, Sec. 10, T.9 N., R.2 E., S.B.B.& M.
Use: Not used.
Reference Point: Top of 2" x 12" wood curb at northwest corner of pit at ground level.
Elevation of reference point: 1897.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 28, 1919	* 20.7	Jan. 22, 1931	28.9
May 8, 1930	28.1	Aug. 26, 1931	29. Mud
May 22, 1930	28.2		

* Measurement from W.S.P. 578, page 467, Well 65.

Table 43, continued

L-66 Hunter

Location and Description: In southwest corner of SW¼, Sec. 12, T.9 N., R.2 E., S.B.B.& M. North of house.
Use: Domestic.
Reference Point: Top of wood curb at ground level and 1.7 feet above top of 12 inch casing.
Elevation of reference point: 1867.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 29, 1919	* 13.2	Aug. 26, 1931	14.9
May 21, 1922	** 12.5	Feb. 26, 1932	14.6
June 13, 1924	** 15.0	Apr. 27, 1932	13.4
Feb. 28, 1930	13.8	July 13, 1932	14.8
May 22, 1930	13.9	Jan. 11, 1933	14.8
Jan. 22, 1931	14.0		

* Measurement from W.S.P. 578, page 468, Well 79a.
** Measurement from W. P. Rowe.

L-67 Hunter

Location and Description: In southwest corner of SW¼, Sec. 12, T.9 N., R.2 E., S.B.B.& M. Old pumping plant southeast of house.
Use: Not used.
Reference Point: Top of 10 inch casing 1.63 feet above 12 inch casing at ground level.
Elevation of reference point: 1873.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 29, 1919	* 5.9	Jan. 22, 1931	8.1
June 13, 1924	** 3.6	Aug. 26, 1931	8.8
Sept. 13, 1925	** 5.6	Feb. 26, 1932	8.6
Mar. 15, 1926	** 5.5	Apr. 27, 1932	8.2
Mar. 3, 1927	** 5.3	July 13, 1932	8.6
Feb. 28, 1930	7.3	Jan. 11, 1933	8.4
May 22, 1930	7.6		

* Measurement from W.S.P. 578, page 468, Well 79, corrected for change in reference point.

** Measurement from W. P. Rowe.

Table 43, continued

L-68 Scobel & Haimut

Location and Description: In southwest corner of SW¼, Sec. 14, T.9 N., R.2 E., S.B.B.& M.
Use: Domestic.
Reference Point: Top of lower board of windmill at ground level.
Elevation of reference point: 1888.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 29, 1919	* 26.5	May 23, 1922	**22.1

* Measurement from W.S.P. 578, page 467, Well 73.
** Measurement from W. P. Rowe.

L-68 A Scobel & Haimut

Location and Description: In SW¼ Sec. 14, T.9 N., R.2 E., S.B.B.& M. Northeast of L-68.
Reference Point: Top of casing at ground.
Elevation of reference point: 1886.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 10, 1925	*15.8	Aug. 26, 1931	a 22.8
Mar. 7, 1927	*16.6	Jan. 28, 1932	20.2
Sept. 12, 1928	*20.3	Mar. 17, 1932	a 22.6
Feb. 28, 1930	21.1	Jan. 11, 1933	19.8
Oct. 9, 1930	19.0	Feb. 14, 1934	20.8

* Measurement from W. P. Rowe.
a - Pumping nearby.

L-68 B Scobel & Haimut

Location and Description: In SW¼, Sec. 14, T.9 N., R.2 E., S.B.B.& M. East of L-68.
Use: Irrigation
Reference Point: Top of railroad tie on ground, southeast corner of catch basin.
Elevation of reference point: 1886.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 9, 1930	17.9		

Table 43, continued

L-68 C Scobel & Haimut

Location and Description: In southwest corner of SW¼, Sec. 14, T.9 N., R.2 E., S.B.B.& M. Southeast of L-68
Reference Point: Top of casing at ground.
Elevation of reference point: 1883.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
June 13, 1924	* 14.0	Oct. 9, 1930	19.5
Nov. 10, 1925	* 15.8	Jan. 22, 1931	18.8
Mar. 15, 1926	* 15.8	Aug. 26, 1931	a 19.3
Mar. 7, 1927	* 16.3	Jan. 28, 1932	19.4
Sept. 12, 1928	* 17.2	Mar. 17, 1932	a 19.6
Feb. 28, 1930	18.1	Jan. 11, 1933	19.7

* Measurement from W. P. Rowe.
a - Pumping nearby.

L-69 McNutt

Location and Description: In southwest corner of SE¼, Sec. 14, T.9 N., R.2 E., S.B.B.& M.
Reference Point: Top of 36 inch casing 1.7 feet above ground level.
Elevation of reference point: 1879.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 29, 1919	* 14.9	Jan. 22, 1931	17.7
May 22, 1922	** 15.2	Aug. 26, 1931	18.1
Feb. 28, 1930	17.0	Jan. 22, 1932	18.3
May 22, 1930	17.2	Apr. 27, 1932	18.4
Oct. 9, 1930	17.6		

* Measurement from W.S.P. 578, page 467, Well 74.
** Measurement from W. P. Rowe.

Table 43, continued

L-70 Pitman

Location and Description: Near center of south line of NE¼, Sec. 11, T.9 N., R.2 E., S.B.B.& M.
Reference Point: Top of concrete slab with 12 inch square opening over well.
Elevation of reference point: 1865.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 30, 1919	* Flowing	Jan. 22, 1931	3.8
May 1922	** Flowing	Aug. 26, 1931	3.8
Sept. 13, 1925	** Flowing	Jan. 21, 1932	4.0
Mar. 6, 1927	** Flowing	Feb. 26, 1932	4.0
May 23, 1930	3.4	Apr. 27, 1932	3.7

* Measurement from W.S.P. 578, page 468, Well 78.
** Measurement from W. P. Rowe.

L-70 A Pitman

Location and Description: In NE¼, Sec. 11, T.9 N., R.2 E., S.B.B.& M., about 1000 feet west of L-70.
Reference Point: Top of 36 inch casing 1.5 feet above average ground.
Elevation of reference point: 1868.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 23, 1930	12.5		

L-71 Newbrough

Location and Description: Near center of north line of NW¼, Sec. 11, T.9 N., R.2 E., S.B.B.& M. Windlass on north side of windmill tower.
Reference Point: Top of 3 inch circular cement curb, 0.2 feet above ground level. Smaller casing in bottom.
Elevation of reference point: 1884.7

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 21, 1922	* 8.9	May 23, 1930	15.8
June 13, 1924	* 11.0	Jan. 22, 1931	16.1
Sept. 13, 1925	* 14.0	Aug. 26, 1931	18.3
Mar. 6, 1927	* 13.5	Feb. 26, 1932	17.0
Oct. 6, 1928	14.5	Apr. 27, 1932	19.9

* Measurement from W. P. Rowe.

Table 43, continued

L-72 Callender

Location and Description: In southwest corner of SW¼, Sec. 7, T.9 N., R.3 E., S.B.B.& M. In open country east of sand hills and mesquite.
Reference Point: Top of 6 inch T on well 2.95 feet above top of wood curb at ground level.
Elevation of reference point: 1861.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 29, 1919	* 47.6	Aug. 26, 1931	52.2
May 23, 1922	** 47.0	Feb. 26, 1932	52.6
Sept. 13, 1925	** 49.5	Apr. 27, 1932	52.4
Feb. 28, 1930	51.2	July 13, 1932	52.6
May 22, 1930	51.3	Feb. 15, 1933	53.0
Jan. 22, 1931	51.5	Feb. 14, 1934	53.7

* Measurement from W.S.P. 578, page 468, Well 80, corrected for change in reference point.

** Measurement from W. P. Rowe.

L-73 Dan Gould

Location and Description: In northeast corner of NE¼, Sec. 28, T.9 N., R.3 E., S.B.B.& M.
Use: Domestic.
Reference Point: Top of 2 inch wood cover over 36 inch iron casing and 0.32 feet above casing at ground level.
Elevation of reference point: 1830.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 8, 1930	35.7	Jan. 28, 1932	33.5
Aug. 19, 1931	33.4	Apr. 28, 1932	34.2

Table 43, continued

L-74 Newberry School

Location and Description: In northwest corner of Sec. 22, T. 9 N., R. 3 E., S.B.B.& M.
Use: Domestic.
Reference Point: Top of upper set of three wood clamps which is 0.77 feet above casing at ground level.
Elevation of reference point: 1833.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Sept. 4, 1917	* 37.4	Jan. 28, 1932	37.8
May 8, 1930	37.5	Mar. 23, 1932	37.8
Aug. 19, 1931	37.7	Apr. 28, 1932	38.1

* Measurement from W.S.P. 578, page 469, Well 104, corrected for change in reference point.

L-75 Harlow

Location and Description: In southwest corner of SW¼, Sec. 10, T.9 N., R.3 E., S.B.B.& M. Engine house below ground with steps down belt tunnel to pump chamber.
Use: Irrigation.
Reference Point: Top of 12 inch concrete pipe 1.0 foot above ground.
Elevation of reference point: 1825.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 22, 1922	* 32.2	Aug. 26, 1931	34. dry
Mar. 1, 1930	32.8		

* Measurement from W. P. Rowe.

L-76 Bozarth

Location and Description: Near center of west line of NW¼, Sec. 10, T.9 N., R.3 E., S.B.B.& M. Tall derrick tower on well.
Use: Domestic.
Reference Point: Top of suction column of pump inside casing and 2.0 feet below average ground.
Elevation of reference point: 1823.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 22, 1922	* 29.6	Jan. 28, 1932	32.7
Mar. 7, 1930	32.0	May 19, 1932	32.6
May 8, 1930	32.0	Feb. 15, 1933	33.0
Sept. 24, 1931	32.5	Feb. 14, 1934	33.2

* Measurement from W. P. Rowe.

Table 43, continued

L-76 A Bozarth

Location and Description: Near center of west line of NW¼, Sec. 10, T.9 N., R.3 E., S.B.B.& M. South of L-76
Reference Point: Top 2" x 4" at ground level on north side of curb.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 19, 1919	* 32.0	Jan. 28, 1932	32.0
Mar. 7, 1930	31.2	May 19, 1932	32.0
May 8, 1930	31.2	Feb. 15, 1933	32.2
Sept. 24, 1931	32.4		

* Measurement from W.S.P. 578, page 469, Well 94.

L-77

Location and Description: Northwest corner of Sec. 3, T.9 N., R.3 E., S.B.B.& M.
Use: Not used.
Reference Point: Top of 12 inch casing at ground level, east of old engine base.
Elevation of reference point: 1823.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 25, 1919	* 42.0	Jan. 28, 1932	42.2
Mar. 7, 1926	** 40.3	Apr. 28, 1932	42.0
Mar. 1, 1930	41.5	Feb. 15, 1933	42.3
Sept. 24, 1931	42.2	Feb. 14, 1934	42.6

* Measurement from W.S.P. 578, page 469, Well 90.
** Measurement from W. P. Rowe.

L-78 Henderson

Location and Description: South of center of NW¼, Sec. 34, T.10 N., R.3 E., S.B.B.& M.
Reference Point: Top of 14 inch casing.
Elevation of reference point: 1774.9

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 25, 1919	* 12.0	Apr. 28, 1932	8.5
Mar. 1, 1930	8.2	Feb. 15, 1933	8.8
Sept. 24, 1931	9.8	Feb. 14, 1934	8.9

* Measurement from W.S.P. 578, page 465, Well 24.

Table 43, continued

L-78 A Henderson

Location and Description: South of center of NW¼, Sec. 34, T.10 N., R.3 E., S.B.B.& M., near round corral.
Reference Point: Top 14 inch casing 0.5 feet above ground.
Elevation of reference point: 1786.3

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Mar. 1, 1930	4.5	Apr. 28, 1932	3.6

L-79

Location and Description: Near center of west line of NW¼, Sec. 4, T.9 N., R.3 E., S.B.B.& M. South of road along bluff from Camp Cody to Forks of Road.
Use: Not used.
Reference Point: Top of 12 inch casing 1.8 feet above ground.
Elevation of reference point:

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Oct. 7, 1925	* 40.4	Sept. 24, 1931	41.5
Mar. 15, 1926	* 39.6	Jan. 28, 1932	41.6
May 8, 1930	40.7	Apr. 28, 1932	41.4

* Measurement from W. P. Rowe.

L-80

Location and Description: Near center of south line of SE¼, Sec. 10, T.9 N., R.3 E., S.B.B.& M. 15 feet north of nine sided concrete reservoir.
Use: Not used.
Reference Point: Top of 12 inch casing at ground level.
Elevation of reference point: 1818.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 16, 1930	28.9	Apr. 28, 1932	29.6
Aug. 25, 1931	29.2		

Table 43, continued

L-81

Location and Description: Near northwest corner of NE¼, Sec. 14, T.9 N., R.3 E., S.B.B.& M. Dug well 6 feet in diameter just south of circular reservoir. Concrete pump base 20 feet west.
Reference Point: Top railroad tie on north side of pit at ground level.
Elevation of reference point: 1812.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 16, 1930	28.7	May 19, 1932	29.1
Aug. 26, 1931	29.0		

L-82 Major

Location and Description: In southwest corner SE¼, Sec. 7, T.9 N., R.4 E., S.B.B.& M. North of reservoir.
Use: Not used.
Reference Point: Top 4" x 4" wood clamp 0.4 feet above ground.
Elevation of reference point: 1798.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 20, 1919	* 25.3	Aug. 26, 1931	26.0
May 16, 1930	24.9	May 19, 1932	25.0

* Measurement from W.S.P. 578, page 470, Well 127.

L-82 A E. F. Dodson

Location and Description: In southwest corner of SW¼, Sec. 7, T.9 N., R.4 E., S.B.B.& M.
Reference Point: 3 notches in southwest corner of pit at ground.
Elevation of reference point: 1801.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 20, 1919	* 22.6	May 19, 1932	21.6
May 16, 1930	22.0		

* Measurement from W.S.P. 578, page 470, Well 126.

Table 43, continued

L-83 H. G. Tienken

Location and Description: Near southwest corner of NW¼, Sec. 18, T.9 N., R.4 E., S.B.B.& M.
Use: Not used.
Reference Point: Top of stringer on north side of well at ground level.
Elevation of reference point: 1801.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 20, 1919	* 24.6	May 16, 1930	24.2
May 23, 1922	** 24.4	Aug. 25, 1931	26.2
Feb. 28, 1930	24.2	May 18, 1932	24.2

* Measurement from W.S.P. 578, page 470, Well 128.
** Measurement from W. P. Rowe.

L-83 A

Location and Description: Near southwest corner of NW¼, Sec. 18, T.9 N., R.4 E., S.B.B.& M. Old windmill.
Reference Point: Top of cement curb at ground and 2.7 feet above top 12 inch casing.
Elevation of reference point: 1801.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 28, 1930	24.2	Aug. 25, 1931	27.3
May 16, 1930	24.4	May 18, 1932	24.6

L-84

Location and Description: Near center north line of SW¼, Sec. 8, T.9 N., R.4 E., S.B.B.& M. North of road and adobe house on road up Black Pass through Cady Mountains, and northeast of adobe house in trees.
Use: Not used.
Reference Point: Top of 1 inch wood cover 0.4 feet above ground.
Elevation of reference point: 1793.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 28, 1930	21.8	May 19, 1932	21.6
May 16, 1930	21.7	Feb. 15, 1933	21.8
Aug. 26, 1931	22.7		

Table 43, continued

L-85

Location and Description: Near center of north line of SE¼, Sec. 8, T.9 N., R.4 E., S.B.B.& M.
Use: Not used.
Reference Point: Top of 1 inch board cover on well 1.7 feet above cover at ground level.
Elevation of reference point: 1787.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 28, 1930	16.7	Aug. 26, 1931	17.5 dry
May 16, 1930	16.6	May 19, 1932	16.4

L-87 C. F. Slicton

Location and Description: Near center of north line of SW¼, Sec. 35, T.10 N., R.3 E., S.B.B.& M. On south side of road, 100 feet south of adobe with fancy fence.
Reference Point: Top of 6 inch casing inside 12 inch casing 1.2 feet above ground.
Elevation of reference point: 1806.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 23, 1922	* 43.2	Sept. 24, 1931	43.9
May 8, 1930	43.4	May 19, 1932	43.6

* Measurement from W. P. Rowe.

L-88 J. T. Carnall

Location and Description: In southeast corner of NE¼, Sec. 35, T.10 N., R.3 E., S.B.B.& M. North of round oil lined reservoir.
Use: Not used.
Reference Point: Top of 2 inch curb on east side at ground level.
Elevation of reference point: 1791.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 25, 1919	* 33.0	Sept. 23, 1931	33.3
May 23, 1922	** 32.1	May 19, 1932	33.0
May 8, 1930	32.4		

* Measurement from W.S.P. 578, page 465, Well 26.
** Measurement from W. P. Rowe.

Table 43, continued

L-89 W. E. Schildt

Location and Description: Near southeast corner of NW¼, Sec. 30, T.10 N., R.4 E., S.B.B.& M.
Reference Point: Top 2 inch plank cover on dug well at ground level.
Elevation of reference point: 1739.4

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 21, 1919	* 19.5	May 8, 1930	18.5 dry
May 21, 1922	** 20.5	May 19, 1932	dry

* Measurement from W.S.P. 578, page 465, Well 28.
** Measurement from W. P. Rowe.

L-90 Purcell

Location and Description: Near center of west line of NW¼, Sec. 32, T.10 N., R.4 E., S.B.B.& M. East of road to Talc Mine in Cady Mountains.
Reference Point: Top of 1 inch well cover at northwest corner inside of curb at ground level.
Elevation of reference point: 1778.8

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 8, 1930	30.4	May 18, 1932	30.5

L-91

Location and Description: Near center of west line of SW¼, Sec. 30, T.10 N., R.4 E., S.B.B.& M. , approximately 1000 feet southeast of fence corner of southeast corner of old Camp Cady Military Reservation. Two wells in dug pit.
Use: Not used.
Reference Point: 3 notches in wood curb on east at ground level. Measure well with high casing.
Elevation of reference point: 1776.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 21, 1919	* 37.1	May 18, 1932	37.4
May 9, 1930	36.0		

* Measurement from W.S.P. 578, page 465, Well 27.

Table 43, continued

L-92 Frank Sherman

Location and Description: In southwest corner of SW¼, Sec. 6, T.9 N., R.4 E., S.B.B.& M. East of round reservoir.
Reference Point: Top of tie with 3 notches at northwest corner of pit 0.6 feet above ground level.
Elevation of reference point: 1800.1

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 8, 1930	27.1	May 19, 1932	27.2
Aug. 26, 1931	27.3		

L-93 Nicholas

Location and Description: Near south line of NE¼, Sec. 12, T.9 N., R.3 E., S.B.B.& M.
Use: Not used. Formerly domestic.
Reference Point: Top of 4" x 6" under iron pump base and 0.7 feet above 5.0 foot circular concrete curb at ground level.
Elevation of reference point: 1801.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 23, 1922	*23.8	May 18, 1932	a 27.6
May 8, 1930	24.6	July 21, 1932	24.6
Aug. 25, 1931	27.0	Feb. 15, 1933	24.8

* Measurement from W. P. Rowe.
a - Windmill pumping.

L-94 Spencer

Location and Description: In southeast corner of Sec. 11, T.10 N., R.3 E., S.B.B.& M. Dug well 600 feet west of highway opposite Station 685+00 and south of gravel plant at foot of hill.
Use: Not used.
Reference Point: Top of timber under 2 inch wooden cover at ground level.
Elevation of reference point: 1796.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 12, 1919	* 114.5	Dec. 15, 1922	**114.1
May 21, 1922	** 115.6	May 24, 1930	114.1

* Measurement from W.S.P. 578, page 464, Well 19.
** Measurement from W. P. Rowe.

Table 43, continued

L-95

Location and Description: Near center of Sec. 12, T.10 N., R.3 E., S.B.B.& M. 600 feet west of Highway opposite Station 722+00. North of gravel plant. Frame of ties with hook over well. Small galvanized shack 400 feet south of well.
Use: Not used.
Reference Point: Top 12 inch casing 1.3 feet above ground.
Elevation of reference point: 1786.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 13, 1919	* 111.0	Dec. 15, 1922	**109.1
May 21, 1922	**109.1	May 24, 1930	109.1

* Measurement from W.S.P. 578, page 464, Well 20.
** Measurement from W. P. Rowe.

L-96

Location and Description: In southeast corner of Sec. 6, T.10 N., R.4 E., S.B.B.& M. 600 feet west of Highway, opposite Station 800+00.
Use: Domestic.
Reference Point: Top of battered casing, 0.2 feet above ground.
Elevation of reference point: 1761.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 13, 1919	* 98.0	July 14, 1932	98.3
May 24, 1930	98.3	Mar. 30, 1934	98.3

* Measurement from W.S.P. 578, page 465, Well 30.

L-97 G. F. Getty

Location and Description: In northeast corner of Sec. 21, T.10 N., R.3 E., S.B.B.& M. Old plunger pump and gas engire in shed south of adobe, and east of Harvard Station.
Reference Point: Top of casing 0.3 feet above ground.
Elevation of reference point: 1820.2

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Nov. 12, 1919	* 82.5	May 24, 1930	80.9
May 17, 1922	**80.9	Feb. 23, 1933	80.8
Dec. 15, 1922	**80.8	Mar. 30, 1934	81.0

* Measurement from W.S.P. 578, page 464, Well 12, corrected for change in reference point.
** Measurement from W. P. Rowe.

Table 43, continued

L-99 C. L. Wright

Location and Description: Near center of Sec. 27, T.10 N., R.3 E., S.B.B.& M. Windmill south of stucco house. 4 foot round reservoir east of well.
Use: Domestic.
Reference Point: Top of 7 inch casing 1.1 feet above ground.
Elevation of reference point: 1762.6

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 24, 1930	7.1	Apr. 28, 1932	6.8

L-100 Cady Ranch

Location and Description: Near center of SW¼, Sec. 19, T.10 N., R.4 E., S.B.B.& M. Flowing well at Camp Cady.
Use: Irrigation.
Reference Point: Top of 2 inch spout extending from 5 inch casing. Spout is 2.6 feet above top of 12 inch casing at ground and 3.0 feet below top 5 inch casing.
Elevation of reference point: 1700.0

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
May 7, 1930	+3.0+	Mar. 29, 1932	3. +
Jan. 22, 1931	+3.0+	Feb. 15, 1933	3. +
Aug. 26, 1931	3. +		

L-100 A

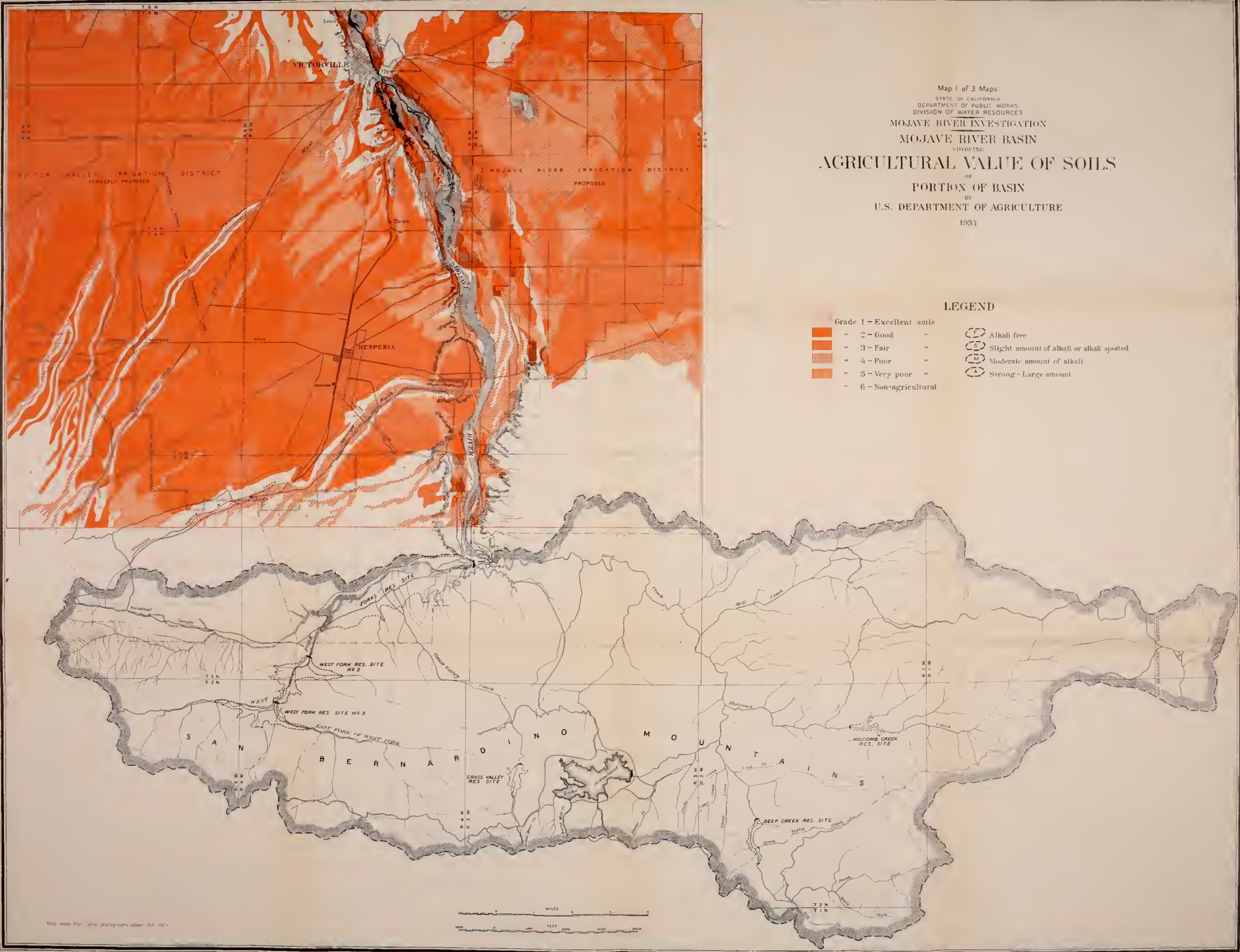
Location and Description: In SW¼, Sec. 19, T.10 N., R.4 E., S.B.B.& M., Well is near tank tower at Camp Cady.
Use: Domestic.
Reference Point: Top of 10 inch casing 3.6 feet below sill of building.
Elevation of reference point: 1713.5

Date	Dist. R.P. to water surface	Date	Dist. R.P. to water surface
Feb. 15, 1933	2.7		

Table 44

Areas of Natural Vegetation on Different Soil Classifications
in
Mojave River Bottom

District or Section of River	Soil Class	Amount of Alkali				Total Acres in Trees
		Free	Slight	Medium	Large	
Mountains to Victorville	1	100	0	0	0	100
	2	279	0	0	0	279
	3	25	0	0	0	25
	4	80	0	0	0	80
	5	0	0	0	0	0
	6	216	0	0	0	216
	Total	700	0	0	0	700
Victorville to Hodge	1	12	0	0	0	12
	2	298	570	0	0	868
	3	342	114	95	0	551
	4	27	40	0	0	67
	5	938	0	0	5	943
	6	237	0	0	0	237
	Total	1854	724	95	5	2678
Hodge to Barstow	1	0	0	0	0	0
	2	0	80	0	0	80
	3	217	157	0	0	374
	4	13	278	25	0	316
	5	451	0	0	35	486
	6	0	0	0	0	0
	Total	681	515	25	35	1256
Barstow to Cady Mts.	1	0	0	0	0	0
	2	40	327	0	0	367
	3	234	761	14	0	1009
	4	20	0	0	40	60
	5	1745	0	0	0	1745
	6	0	0	0	0	0
	Total	2039	1088	14	40	3181
GRAND TOTAL		5274	2327	134	80	7815



Map 1 of 3 Maps

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

MOJAVE RIVER INVESTIGATION

MOJAVE RIVER BASIN

SHOWING

AGRICULTURAL VALUE OF SOILS

OF

PORTION OF BASIN

BY

U.S. DEPARTMENT OF AGRICULTURE

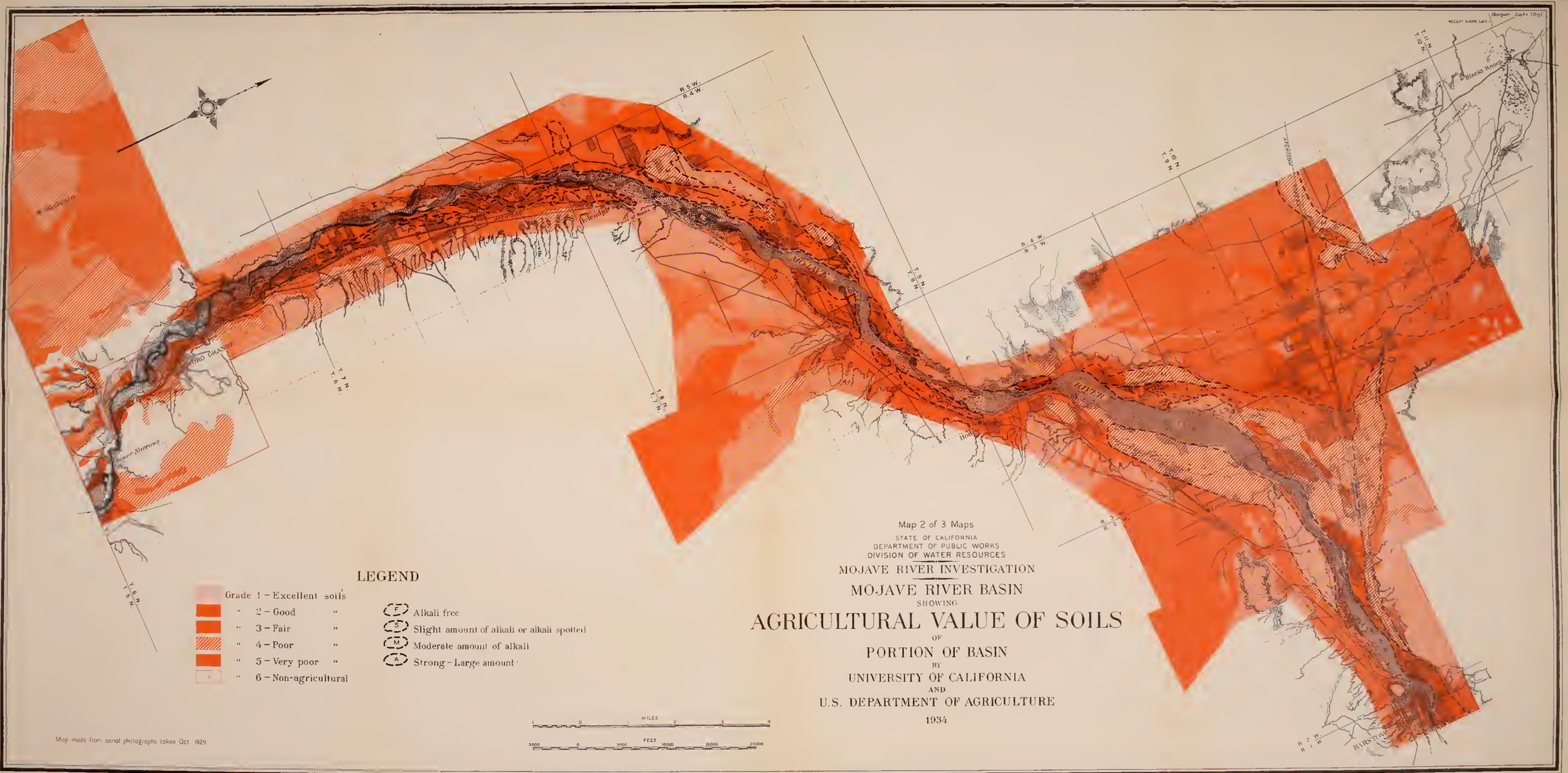
1934

LEGEND

Grade 1 – Excellent soils
" 2 – Good "
" 3 – Fair "
" 4 – Poor "
" 5 – Very poor "
" 6 – Non-agricultural

F – Alkali free
S – Slight amount of alkali or alkali spotted
M – Moderate amount of alkali
A – Strong – Large amount

Map made from aerial photographs taken Oct 1927


LEGEND
Grade 1 – Excellent soils
" 2 – Good "
" 3 – Fair "
" 4 – Poor "
" 5 – Very poor "
" 6 – Non-agricultural
F Alkali free
S Slight amount of alkali or alkali spotted
M Moderate amount of alkali
A Strong – Large amount
Map made from aerial photographs taken Oct 1929
MILES
FEET
Map 2 of 3 Maps
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES
MOJAVE RIVER INVESTIGATION
MOJAVE RIVER BASIN
SHOWING
AGRICULTURAL VALUE OF SOILS
OF
PORTION OF BASIN
BY
UNIVERSITY OF CALIFORNIA
AND
U.S. DEPARTMENT OF AGRICULTURE
1934
Victorville
Hesperia
Oro Grande
Helendale
Blacks Ranch
Harper Lake (Dry)
Recent Shore Line
Mojave River
Santa Fe R.R.
Hodge
Barstow
River Narrows
R. 5 W.
R. 4 W.
R. 3 W.
R. 2 W.
R. 1 W.
T. 7 N.
T. 6 N.
T. 5 N.
T. 8 N.
T. 9 N.
T. 10 N.
T. 11 N.

Map 3 of 3 Maps

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

MOJAVE RIVER INVESTIGATION

MOJAVE RIVER BASIN

SHOWING

AGRICULTURAL VALUE OF SOILS

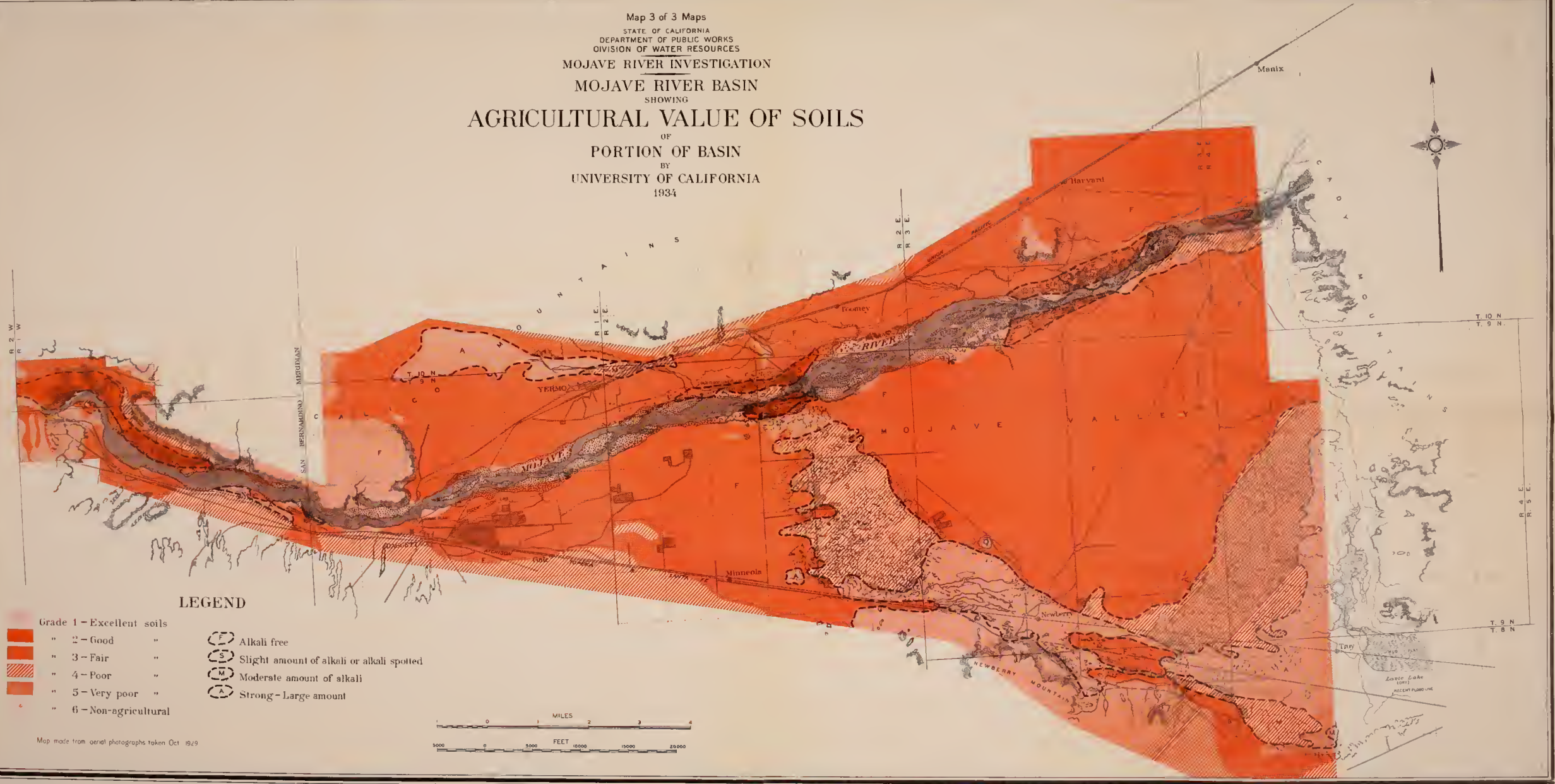
OF

PORTION OF BASIN

BY

UNIVERSITY OF CALIFORNIA

1934



Map 1 of 3 Maps

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

MOJAVE RIVER INVESTIGATION

MOJAVE RIVER BASIN
SHOWING

LOCATION OF WELLS
AND
GROUND WATER TABLE CONTOURS

AS OF FALL 1930

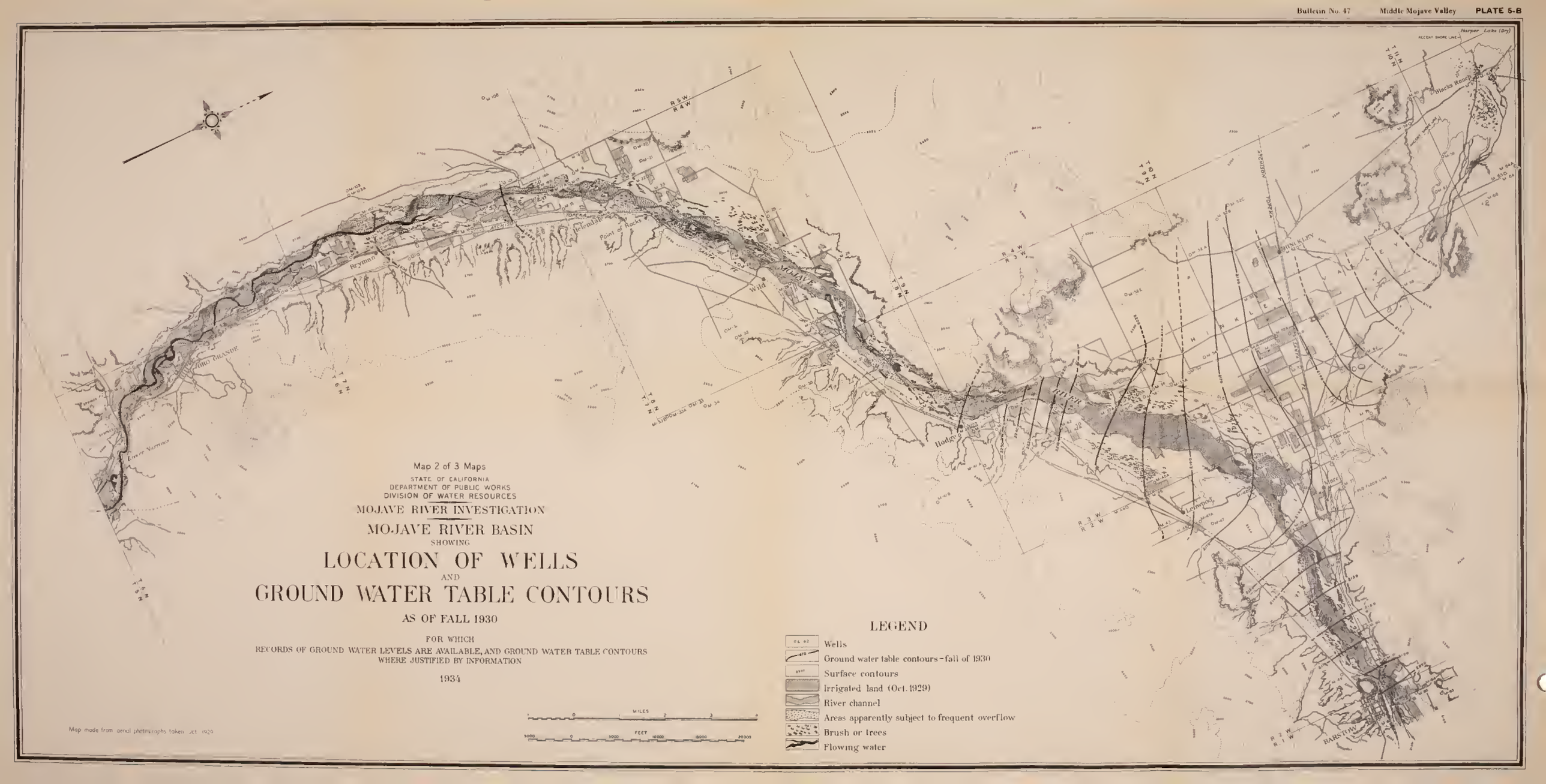
FOR WHICH
RECORDS OF GROUND WATER LEVELS ARE AVAILABLE, AND GROUND WATER TABLE CONTOURS WHERE JUSTIFIED BY INFORMATION

1934

LEGEND

- Wells
- Ground water table contours - fall of 1930
- Surface contours
- Irrigated land (Oct. 1929)
- River channel
- Areas apparently subject to frequent overflow
- Brush or trees
- Flowing water

VICTORVILLE
Upper Narrows
VICTOR RES. SITE
Leon
Thorn
HESPERIA
Forks
VICTOR VALLEY IRRIGATION DISTRICT
FORMERLY PROPOSED
MOJAVE RIVER IRRIGATION DISTRICT
PROPOSED
PALMDALE - VICTORVILLE ROAD
PALMDALE - HESPERIA ROAD
Mojave River
Deep Creek
Mill Creek
Holcomb Creek
Horsethief Canyon
FORKS RES. SITE
WEST FORK RES. SITE N°2
WEST FORK RES. SITE N°3
EAST FORK OF WEST FORK
Grass Valley Creek
GRASS VALLEY RES. SITE
Arrowhead
Lake
HOLCOMB CREEK RES. SITE
DEEP CREEK RES. SITE
Intake Hesperia Ditch
SAN BERNARDINO MOUNTAINS
SAN BERNARDINO MERIDIAN
Map made from aerial photographs taken Oct. 1929
MILES
FEET



Map 2 of 3 Maps

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

MOJAVE RIVER INVESTIGATION

MOJAVE RIVER BASIN

SHOWING

LOCATION OF WELLS
AND
GROUND WATER TABLE CONTOURS

AS OF FALL 1930

FOR WHICH
RECORDS OF GROUND WATER LEVELS ARE AVAILABLE, AND GROUND WATER TABLE CONTOURS WHERE JUSTIFIED BY INFORMATION

1934

Map made from aerial photographs taken Oct. 1929

LEGEND

- Wells
- Ground water table contours - fall of 1930
- Surface contours
- Irrigated land (Oct. 1929)
- River channel
- Areas apparently subject to frequent overflow
- Brush or trees
- Flowing water

Map 3 of 3 Maps

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

MOJAVE RIVER INVESTIGATION

MOJAVE RIVER BASIN

SHOWING

LOCATION OF WELLS
AND
GROUND WATER TABLE CONTOURS

AS OF FALL 1930

FOR WHICH

RECORDS OF GROUND WATER LEVELS ARE AVAILABLE, AND GROUND WATER TABLE CONTOURS WHERE JUSTIFIED BY INFORMATION

1934

LEGEND

- Wells
- Ground water table contours - fall of 1930
- Surface contours
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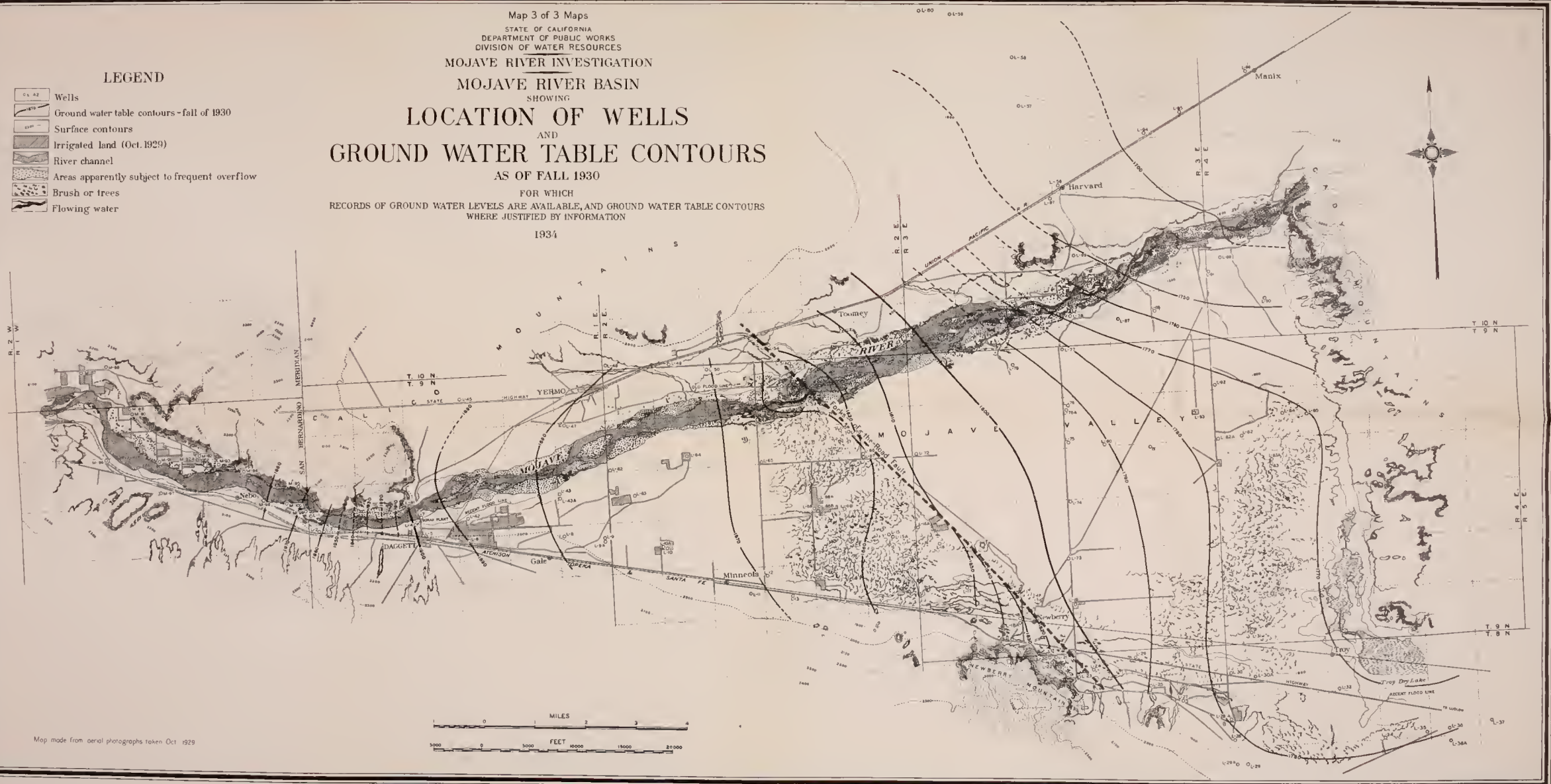
- Brush or trees
- Flowing water



Map made from aerial photographs taken Oct 1929

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